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ABSTRACT

This curriculum unit offers students the opportunity to become researchers of history. The curriculum is organized among three sections: (1) "Context," students are introduced to early seagoing peoples, their ideas and technologies, and to related ideas from Renaissance Europe; (2) "Voyages," students conduct individual research projects about the lives of 15th and 16th century European explorers, and work in teams to discover the complexities of a sea voyage at that time in history; and (3) "Encounters," students study in-depth the population of the North American continent before 1492, and what happened to native cultures when Europeans arrived with ideologies, weapons, and diseases. Student worksheets, background information, bibliographies, and suggestions for integrating ideas and making interdisciplinary connections are provided. (MM)

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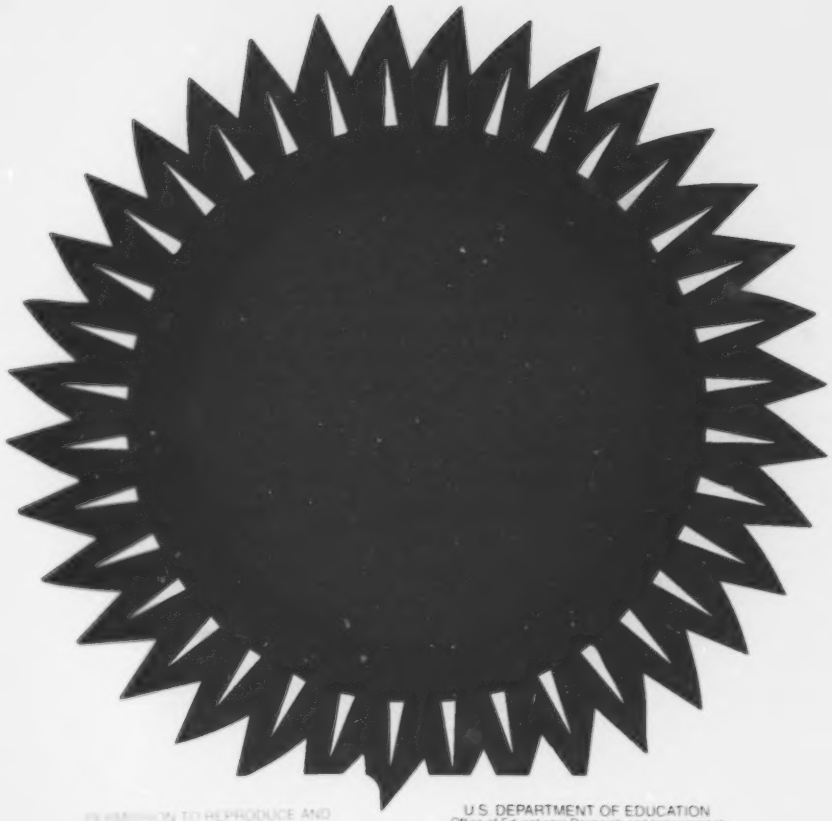

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Worlds Apart

Context, Voyages and Encounters in the Age of Exploration

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Worlds Apart:

Context, Voyages, and Encounters in the Age of Exploration

Primary Source Curriculum Series

Anna Roelofs & David Millstone

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Acknowledgments

Anna Roelofs, has been a teacher and a staff and curriculum developer for over 25 years. She is the founder and Co-Director of **Primary Source**. Educated at Bank Street College, she served on the Massachusetts State Social Studies Curriculum Frameworks Committee and has been a consultant for numerous school systems around the Northeast. Original research for this curriculum was carried out under the auspices of the Wellesley Massachusetts Public Schools.

David Millstone teaches fifth grade at the Marion Cross School in Norwich, Vermont. Especially interested in bringing history to life through experiential activities, David recently published a curriculum based on Homer's ***Odyssey*** (Portsmouth, NH: Heinemann Press). ***Worlds Apart*** incorporates a voyage simulation activity developed by David for use in his own classes. We are very grateful to him for curriculum materials included here.

Heather Franek, Contributing Editor, worked for **Primary Source** for two years as a program assistant, preparing training materials and publicity. She also served as an advisor on the integration of technological resources. Heather currently lives in the San Francisco Bay area.

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Introduction

My favorite analogy of history is that of a funnel --many stories about a particular time and place fit through a wide top with room for only a few to exit the narrow end. The choice of which stories to tell is determined by the times, the teller, and, often, by tradition. Ideas, controversies, and publications resulting from the 1992 Quincentennial of Columbus' arrival in the Americas spoke to all of us about the possibilities and the obligation to teach a more historically accurate account of how America, as we know it, came to be. There now exists a wealth of material placing the "discovery" of America in context.

Re-working a traditional curriculum requires, first of all, curiosity. Is there more to a story than the one we know? Where can we find out? How can we incorporate elements of conflicting stories to arrive at a more complex tale? Though time consuming, it is both exhilarating and satisfying to track down information from museums and historical societies, from less well known publishing houses, and from university scholars. Though individual teachers often don't have time to perform extensive research, it is possible to bring the work of scholars into our pre-college classrooms through organizations such as **Primary Source**.

Students today are often indifferent to social studies; our challenge is to engage them, to help them make empathic connections through time and space. One place to begin is with an understanding that we don't just *learn* history, rather we *do* history; we are all part of the unfolding story of humankind. When they feel themselves to be part of the process, students are more likely to become active participants in an effort to acknowledge our debt to a global history. In this curriculum, we engage students by offering them opportunities to become researchers. At several points, we also implicitly address the question of what knowledge is. How do we know what we know? Offering multiple sources of information encourages students to think for themselves and to make informed choices among conflicting stories. The curriculum provides student worksheets, information and an extensive bibliography, and assignments which suggest ways to make connections between ideas.

The curriculum is organized into three sections. In ***Context***, students are introduced to early seagoing peoples, their ideas and technologies, and to several key ideas from Renaissance Europe. In ***Voyages***, students conduct individual research projects about the lives of 15th and 16th century European explorers, and work together in teams to discover the complexities of a sea voyage at that time in history. Finally, in ***Encounters***, students look in depth at the populated North American continent before 1492, and at what happened to Native cultures when European explorers arrived with their ideologies, weapons and diseases. Any and all of this content can be expanded and deepened by individual teachers and interested students. The curriculum can be taught in three months; it might also cover a year.

We have tried to suggest most of the materials needed to teach these units. Many may be borrowed from **Primary Source**, most are in local libraries, and quite a few are still in print. As you teach this and discover additional resources, please tell us so that we can tell others. And please let us know what you think of this publication.

—Anna Roelofs

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Unit Preparations

1. Prepare for construction of the timeline.

In the second lesson, students begin to construct a timeline covering the period from 300 B.C.E.* to 1700 C.E. Timelines can provide valuable visual reinforcement of chronology for students throughout the curriculum; timeline activities are built into all three units.

Deciding on scale and managing the wall space for a timeline can be a challenge. We recommend that you put some advance thinking into where in your classroom a timeline can be located so students can easily see it during class discussions and can reach it for placing additional entries.

Each 100 years, starting with 300 B.C.E., could be the width of an 11 1/2 inch piece of standard paper. This means the whole time line will take up 13 1/2 feet of wall space! Since the principal years addressed in the curriculum are 1400 - 1600 C.E., those years should be the easiest for students to see. There will need to be space for adding additional pieces of paper under each of those 100 year periods, allowing room for more events as the class progresses through the curriculum. When students write on the timeline, encourage them to write with one inch high letters so the entries can be read by students in other parts of the room.

2. Alert your librarian.

Research materials are needed at several points in the curriculum. Your librarian will appreciate advance notice so that she/he can support your curriculum work. Topics for research are: **global explorations** before 1492, the European **Renaissance**, individual and well known **European explorers**, and **Native cultures** in all parts of America before 1492.

3. Tell students in advance about the simulation.

In Lesson Four of **Voyages**, students will simulate the planning and journal writing of a 15th century voyage. We recommend that you discuss this with students during the first days of this unit. The king and queen, who decide whether or not to provide money for the voyages, will base their decision on students' knowledge and authentic representation of life, aspirations and technology of the 1400s. Students need to pay attention to each lesson in the early part of this unit because the information is necessary for a successful voyage!

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* see page 14

Materials Available from Primary Source

These materials are needed for use in this curriculum and are all available at the Primary Source resource library. With a Primary Source membership, they may be borrowed for up to four weeks. In most cases, photocopying is also possible for a small fee.

America in 1492 by Alvin M. Josephy, Jr.

Ancient Ships on American Shores by Michael Custode

Calliope Sept/Oct 1990, Topic: "Great Explorers to the East"

Jan/Feb 1992, Topic: "Great Explorers to the West"

Cobblestone Oct 1984, Topic: "Who Came to America Before Columbus?"

Feb 1984, Article: "Borrowed Names"

Jan 1992, Topic: "The Legacy of Columbus"

Explorer by Rupert Matthews

Explorers and Mapmakers by Peter Ryan

Faces Jan 1992, Article: "The First American Languages"

I, Columbus - My Journal 1492 - 1493 by Peter and Connie Roop

Keys to the Encounter: A Library of Congress Resource Guide for the Study of the Age of Discovery

OAH Magazine of History Spring 1991: Columbian Quincentenary Issue: a variety of articles useful for background reading

The Elizabethan Explorers by Marjorie Reeves

The Librarian Who Measured the Earth by Katheryn Lasky

The Shape of the World Teacher's Manual, Booklet of student worksheets, book and video

They Came Before Columbus: The African Presence in Ancient America by Ivan Van Sertima

Walk the World's Rim by Betty Baker

Who Really Discovered America? by Stephen Krusky

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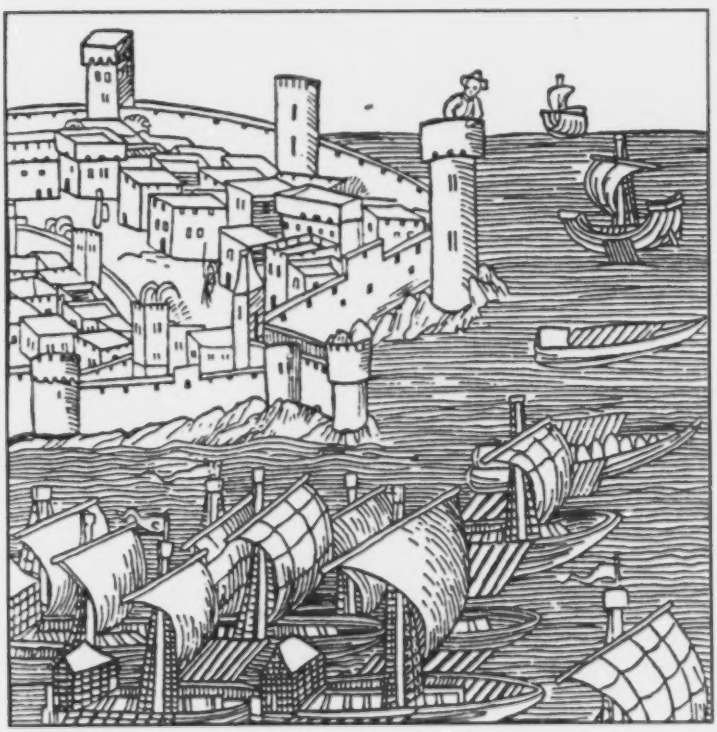
Context



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Part I - Three Lessons

Organizing Idea

During the 15th and 16th centuries in Europe, a time known as the "age of exploration," sailors, adventurers and traders were the beneficiaries of accumulated knowledge from hundreds, perhaps thousands, of years and from many diverse cultures. Knowledge about the size and shape of the world was cumulative; people traded across continents and borrowed technologies from each other. As an example, by 300 B.C.E., Malay sailors were riding the monsoons using a *balance-lug* sail which had been developed both by the Polynesians and by the Arabs. This sail later evolved into the *lateen* sail, that allowed ships to sail into, as well as off, the wind. The mariners compass and the ability to steer a ship from the stern originated in China; Africans knew and used favorable currents and winds in the Atlantic Ocean. To understand the "age of exploration," we need to be familiar with what came before.

Organizing Questions

Who explored before Columbus?

What kinds of maps did they use? How did they navigate on the oceans?

What were their ships like?

What can we know about *why* people explored?

What other questions do students have?

General Objectives for Students

1. Students learn about exploration from cultures in several parts of the world and across many centuries.
2. Students research alone and in small groups, then share information with the rest of the class.
3. Students understand that Europeans had much in common with other peoples from earlier times—an adventuring spirit, a knowledge of the world, and sailing technologies.

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Lesson One

Student Objective

Students will be introduced to early ideas of mapping and to world views from several cultures.

Activities

A. Introductory discussion: What do we know about sailors and explorers who traveled widely before the age of Columbus? (Think about what is known of early civilizations such as Phoenicia, Greece, or China.) What do you want to know?

   Use the organizing questions and make a list of answers to add to and/or compare later.

B. Introduce the video segments from a longer program entitled ***The Shape of the World***. In these segments, look for how people in many places formed their views of the world and then expressed these views in maps. (Teachers may want to refer to the book, ***The Librarian Who Measured the Earth***, which tells the story of Eratosthenes.)

C. Show and discuss segments of ***The Shape of the World.*** Use some or all:

Segment 1:	The Greeks Seek the Shape of the World	Time:	5 min. 44 sec.
Segment 2:	The Achievement of Ptolemy	Time:	2 min. 42 sec.
Segment 3:	The Chinese World View	Time:	2 min. 38 sec.
Segment 4:	The World of Faith	Time:	1 min. 51 sec.
Segment 5:	The Rediscovery of Ptolemy	Time:	3 min. 02 sec.
Segment 6:	China Advances and Retreats	Time:	4 min. 07 sec.
Segment 7:	Connecting the World by Sea	Time:	1 min. 30 sec.
Segment 8:	Prince Henry and the Gold of Mali	Time:	4 min. 26 sec.
Segment 9:	The Spice Islands	Time:	2 min. 40 sec.

Materials Needed

- "The Hemispheric Roots of the Columbian Voyages," ***OAH Magazine of History,*** Spring 1991
- ***The Shape of the World*** video
- ***The Librarian Who Measured the Earth*** by Kathryn Lasky

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Lesson Two

Student Objective

Students will work cooperatively in teams to research early explorations from one part of the world, using materials provided in the research packets.

Activities

A. Divide the class into six research teams on the following topics: China, Africa, Greece/ Phoenicia, the Vikings, Marco Polo/Ibn Battuta, and Other Early European Explorers. Give out research packets and go over the assignment sheets and the expectations for project development.

B. Hand out timeline information and discuss development of a class timeline.

C. Students read on their own, sharing materials, then meet together as a team to plan a class presentation. Ideas for projects are included on the assignment worksheet.
Research teams should also prepare timeline cards. Teacher circulates as a resource person, encouraging teamwork as well as inquiry.

D. Teams prepare presentations to share information with the whole class.

Materials Needed

Teacher

- A classroom collection of books and articles to be used in research. A materials list is included with this curriculum.

Students

- Research packets (included) consisting of reading materials on China and Africa, worksheets, and assignments. Blank 3x5 cards may be given out for timeline data.
- Additional materials as indicated in the Materials for Research Groups guide (on pages 23-24), and others collected by teacher and students for the classroom.
- Project materials as appropriate. (Various kinds of paper, markers, etc.)

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Assignment Sheet

Student Worksheet

As a member of this research team, you will be reading and thinking on your own *and* you will be involved in cooperative work with your teammates.

The readings in your packet need to be shared so that every team member has a chance to read everything on your group's topic. Next, everyone fills out an individual worksheet and makes additional time line cards noting important dates and events.

After the reading and the worksheets are completed, your team will meet together to discuss what you have learned and to plan a project/presentation for your team to share with the whole class. Be sure to add your timeline card information to the class timeline.

Here are some ideas for project presentations:

A map showing where the people of your culture sailed *to* and *from*.

A written report to which each team member contributes.

A collection of fiction stories, written by you, using the information you have learned.

A mural depicting ships and the people who sailed them.

You may also decide on a project that is different from any of these, and that's fine!

Have fun!

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Research

Student Worksheet

Topic_____ Name_____

Approximate dates of the voyages from the area you are researching:

Describe (or draw) the boats or ships used.

Where did these explorers sail?

Do we know *why* the voyages were undertaken? If yes, explain:

Describe the maps or other navigational aids used.
(Note: Some teams may not have this information.)

What are the *sources of information* from which we learn of these voyages?

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Ideas to Begin Your Time Line

Student Worksheet

For centuries historians in the West dated events in relation to the birth of Jesus. By this reckoning, Columbus set sail in 1492 **A.D.** (***Anno Domini*** is Latin for "Year of Our Lord"), and Rome was founded in 753 **B.C.** ("Before Christ"). Now many people all over the world count the years forward and backward from this same starting point, whether they are Christians or not. Recognizing this, scholars have recently begun to use the abbreviations **C.E.** ("Common Era") and **B.C.E** ("Before Common Era"). The starting point (Year 1) remains the same.

300 BCE Early compass developed in China.

Malay sailors from Vietnam, Thailand, Indonesia, and the Philippines learned to ride the seasonal winds (called **monsoons**) to China, India, and East Africa. They used a **balance-lug** sail, probably the type of sail that developed into the **lateen** sail.

100 BCE Paper made in China.

200-300 CE Southern India was a center of international spice trade (especially pepper).

300-500 CE Cotton, long grown in India, became an international commodity.

350 CE In India, people figured out how to make crystallized sugar from cane, and traded sugar internationally.

600-700 CE Scholars and craftspeople in the Arabic world:
- developed the lateen sail,
- adopted the compass from China,
- adopted the Indian system of numerals (which we call Arabic numerals, and the Arabs call Hindu numerals).

600-900 CE Gunpowder invented and printing developed in China.

700 CE Arab traders opened land route to West Africa digging wells across the Sahara desert.

900 CE Chinese sailors were able to tack against the wind; They used a compass to navigate.

1300 CE Gunpowder and an early form of printing appeared in Italy.

1400 CE Portuguese sailors combined the Mediterranean lateen sail and European square sail to create a ship called a **caravel.** This ship, which had a large sail area and could sail *into* as well as *off* the wind, made the European explorations possible.

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Did Africans Travel to the New World before Columbus?

Student Worksheet

As we try to answer this question, we need to be historical detectives.

Example 1

From **written records**, and from **stories** handed down from generation to generation in the kingdom of Mali, we know that King Abubakari the Second sent two expeditions to explore the Atlantic Ocean. They first left Africa in 1310 C.E. (A.D.) Four hundred ships set off and Abubakari directed the crews to sail until they reached the end of the ocean or until they exhausted their supplies. Only one ship ever returned. The captain of that ship described how the others had been pulled out to sea as by a swift current and how he had decided to come home. King Abubakari then directed that a second fleet be built. The year was 1311. "Like the pyramid builders of Egypt, he began to reorganize his whole empire around a single project. Word was sent out to the provincial governors and passed down to . . . the political chiefs of the villages, that all gold, all grain . . . should be sent to his camp . . . a vast army of craftsmen were assembled . . . Caravans which came into Niani (the capital of Mali) found the army, the royal family and its vast retinue, the drummers and buglers and the medicine men, all gone . . .

Abubakari never looked back. He never returned to the court at Niani. This time he had a special boat built for himself . . . He would command the new expedition himself, keeping in touch with the captains of the fleet by means of the talking drum . . . Then one day, dressed in a flowing white robe and a jeweled turban, he took leave of Mali and set out with his fleet down the Senegal (river), heading west across the Atlantic, never to return."

from ***They Came Before Columbus*** by Ivan Van Sertima

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Did Africans Travel . . . *(continued)*

Student Worksheet

Example 2

Some scholars believe that African sailors may have followed favorable currents and winds to the 'New World' even earlier than King Abubakari, perhaps more than 2000 years ago. You have pictures of two kinds of early African boats, and a copy of a photograph showing a papyrus boat belonging to the adventurer and writer, Thor Heyerdahl. In the 1960s he hired African boatmen to build this boat modeled after an ancient Egyptian craft. Heyerdahl was able to sail this boat from Africa to Barbados.

You also have a map illustrating the winds and currents of the Atlantic ocean. After studying these pieces of evidence, we might figure out that African sailors, explorers or traders could have sailed or drifted to the 'New World' where some of them found the winds and currents moving eastward to return them home again.

Example 3

Archaeologists and **anthropologists** have found that cultures in Africa and cultures in Central and South America have some things in common. For example, one type of structure called a step pyramid is found only in Africa and Central America. Also, many stone sculptures of human faces, found in Central and South America, have African features. Look at the photographs in your packet. Pay attention to the shapes of features, the hair styles and jewelry. Use this information with the other evidence you have from examples 1 and 2 to see if you can answer the question, "Might Africans have traveled to the 'New World' before Columbus?"

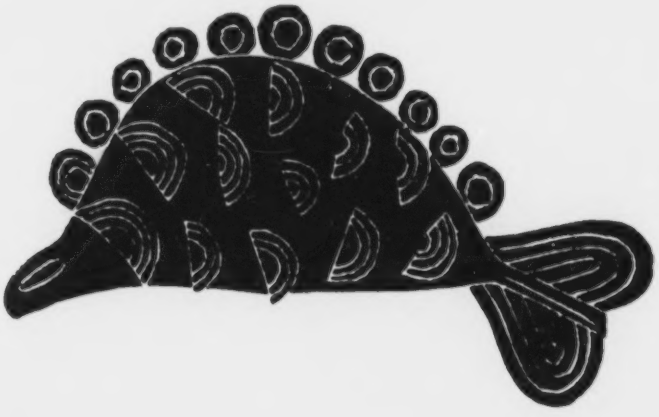

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Plate 10 *World Wide winds and currents, emphasizing Atlantic drift routes from Africa to America.*

from ***They Came Before Columbus*** by Ivan Van Sertima. Copied with permission.

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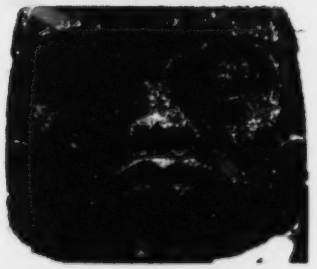
Nigerian woman today

Mexican sculpture 1000 years ago

African chief in this century

From Central America—2000 years old



From Central America—2000 years old

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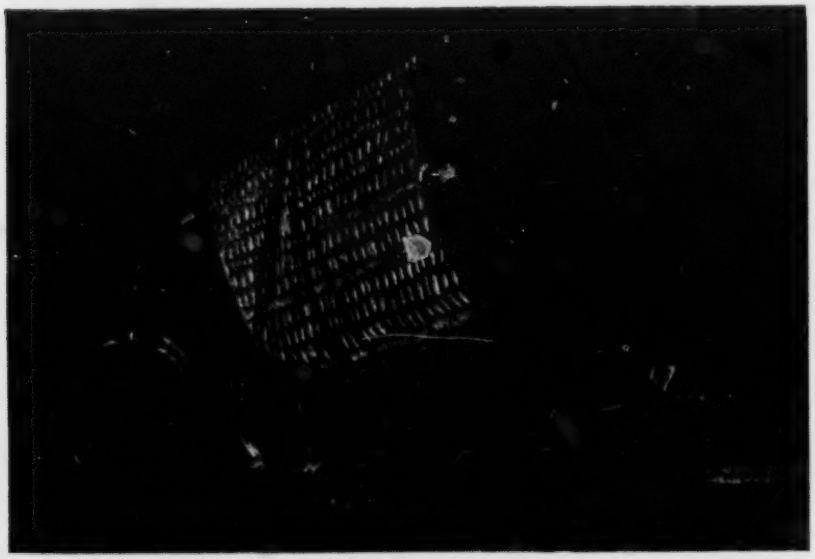
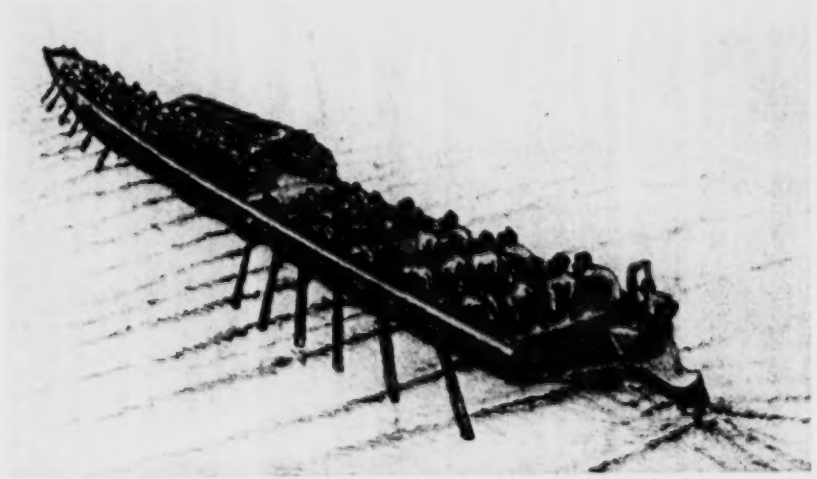


Plate 11 *East African trading ship.* A ship of great antiquity

from ***They Came Before Columbus*** by Ivan Van Sertima. Copied with permission.

Plate 13 *African power canoe*



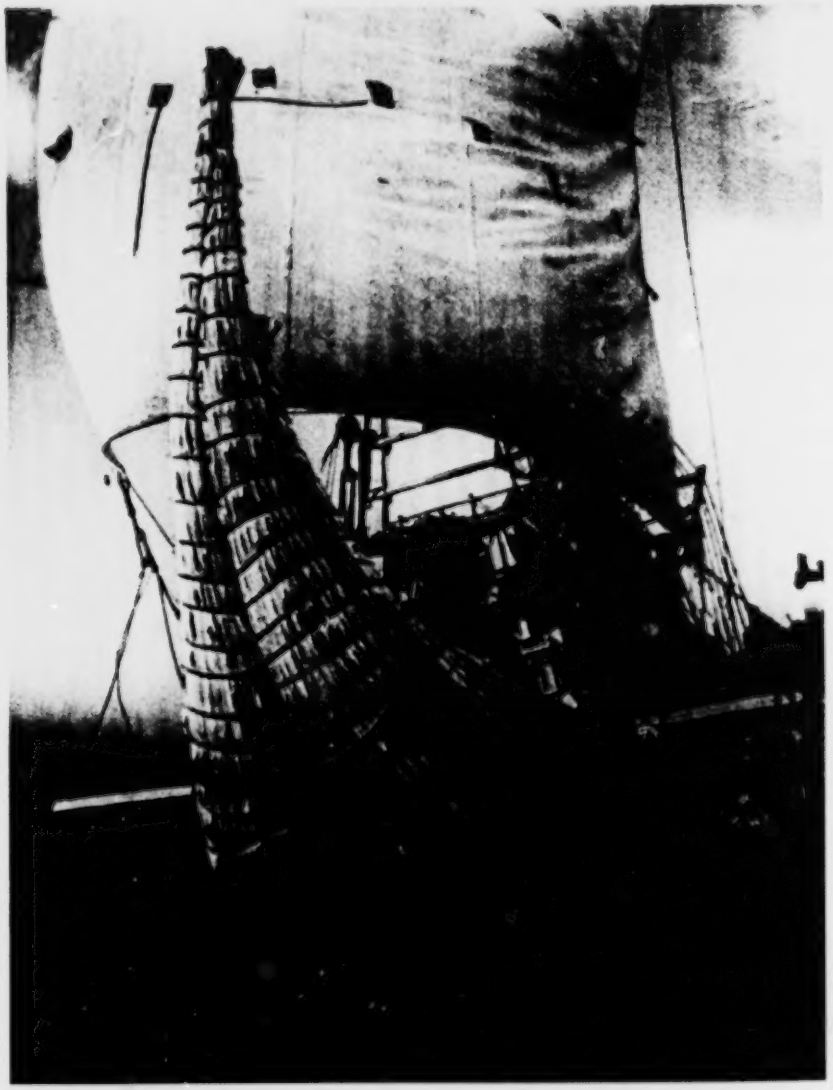


Plate 12 ***Heyerdahl's*** **Ra I,** ***built by African boatmen.*** African boatmen from Lake Chad built this papyrus boat along the pattern of the ancient Egyptians. It left North Africa in 1969 and sailed as far as Barbados. Rudders broke early on the *Ra*, proving that an ancient drift journey in such a boat using Africa-to-America currents was feasible.

Student Worksheet

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12

13

The Chinese At Sea

Student Worksheet

The Chinese have kept carefully written records of many historical people and events. Because of this, we are able to learn about Chinese ships, shipbuilding, and voyages. In addition, Marco Polo, an early European explorer, and Ibn Battuta, a traveler from Morocco, wrote about their travels and adventures in Asia.

Here are several stories written in different centuries. Read them carefully and look at the pictures; you will be discovering information just as scholars do - from the people who recorded it.

Chang Chung-Yen lived about 1158 CE. He worked for the emperor. Here is what was written about him:

> "When they began to build ships, the artisans [builders with talent and experience] did not know how. So Chung-Yen made with his own hands a small boat several [tens of] centimeters long. Without the use of glue . . . it all fitted together perfectly from bow to stern. He called it his 'demonstration model.' Then the astonished artisans showed him the greatest respect . . .
>
> "After the large ships had been built and were ready to be launched, people were to come from all the surrounding districts to drag them into the water, but Chung-Yen ordered several tens of his craftsmen to build sloping runways leading down to the river. Fresh millet stalks were collected and spread thickly on these slipways, which were supported on each side by large beams. Early in the morning, when there was a frost, he led the men to the launching, and because of the slipperiness the work was accomplished with very little effort."

Marco Polo was an Italian trader who lived and traveled in China from 1275 to 1292. After he returned home, he wrote an account of his travels which included this description:

> "We shall begin first to tell you about the great ships in which the merchants go and come through the Indian sea . . . They have only one floor, which is called . . . a deck . . . and on this deck there are commonly 60 little rooms or cabins . . . where a merchant can stay comfortably. They have one good sweep or helm which . . . is called a rudder. And four masts and four sails, and they often add two masts more, which are raised and put away . . . according to the state of the weather.
>
> "Moreover I tell you that these ships [have] some 300, some 200, some 150 sailors according [to whether] the ships are larger or smaller. They also carry a much greater [cargo] than ours . . . They are so large that they can carry 5000 baskets of pepper."

(Pepper was very much needed in Europe to preserve food over long periods of time.)

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The Chinese At Sea *(continued)*

Student Worksheet

Another traveler, a man from Morocco named **Ibn Battuta**, wrote this in 1347:

> "People sail on the China seas only in Chinese ships . . . The sails of these vessels are made of strips of bamboo, woven into the form of matting . . . Each of these ships is worked by 1000 men—600 sailors and 400 marines—among whom are archers and crossbowmen furnished with shields . . . Also oars are found; they are as big as masts, and are worked by ten to fifteen men [each], who row standing up . . . The sailors have their children in their cabins and [in some parts of the ship] they sow garden herbs, vegetables, and ginger in wooden tubs."

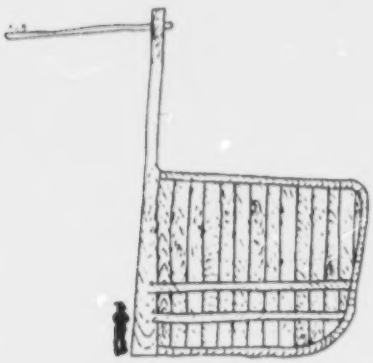
Finally we find the story of **Cheng Ho** who worked for the emperor Cheng Zu and who, in 1405, was sent on a mission from the Imperial Palace to the countries of the Western oceans:

> "The emperor suspected that his nephew might have fled beyond the seas so he sent Cheng Ho, Wang Ching Hung and others to pursue him. Bearing vast amounts of gold and other treasures, and with a force of 37,000 officers and men, they built great ships [62 in number] and set sail . . .
>
> Here they made known the proclamations of the Son of Heaven (the emperor) and . . . they [gave] gifts to kings and rulers."

These kings and rulers apparently sent gifts in return, including an elephant and a giraffe. The emperor was well pleased. (There is no record that his nephew was ever found!)

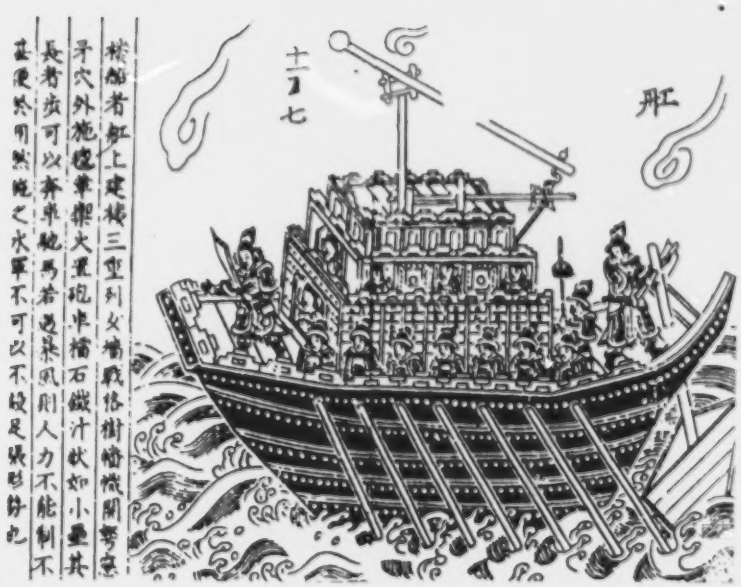
This information on **The Chinese at Sea** is taken from ***The Shorter Science and Civilization in China***, vol. 3, by Joseph Needham (Colin Ronan, ed.). Cambridge University Press, 1986.

Primary Source • Watertown, MA • http://www.primarysource.org



Drawing of a rudder from Cheng Ho's ship. You can judge the size from the small human figure.

An ocean-going junk (ship). Notice the bamboo sails.



A Chinese "Tower-Ship." Notice the oars and weapons.

This information on **The Chinese at Sea** is taken from ***The Shorter Science and Civilization in China***, Vol. 3, by Joseph Needham (Colin Ronan, ed.) Cambridge University Press, 1986.

Primary Source • Watertown, MA • http://www.primarysource.org

Materials for Research Groups

* Materials noted with an asterisk are included in this curriculum guide.
(PS) Materials noted with a (PS) are available at **Primary Source**.
See **Bibliography** for additional teacher and student resources on these topics.

GREEKS/PHOENICIANS: ***Ancient Ships on American Shores*** by Michael Custode (PS)

"Phoenicians Warboat," "Greek Merchantman," and "Greek War Galley," from ***Oars, Sails, and Steam*** by Edwin Tunis

The Phoenicians by Pamela Odijk

Warriors and Seafarers by Annie Millard

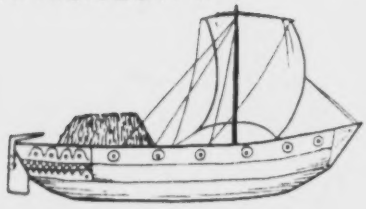
Calliope, Jan./Feb. 1992 (PS)

The Librarian Who Measured the Earth by Kathryn Lasky (PS)

Life Through the Ages by Giovanni Caselli

Who Really Discovered America? by Stephen Krusky (PS)

AFRICA/EGYPT:



Ancient Ships on American Shores by Michael Custode (PS)

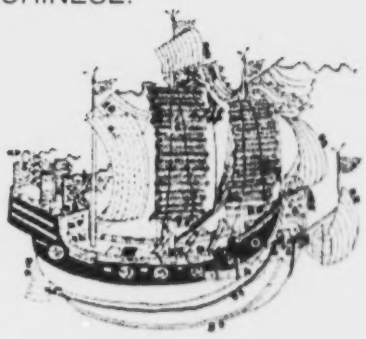
Calliope, Sept./Oct. 1990. **(Excellent map in this issue!)** (PS)

"Did Africans Travel to the New World Before Columbus?"*

Warriors and Seafarers by Annie Millard

Life Through the Ages by Giovanni Caselli

CHINESE:



Ancient Ships on American Shores by Michael Custode (PS)

"The Chinese at Sea"*

When China Ruled the Seas by Louise Leveles

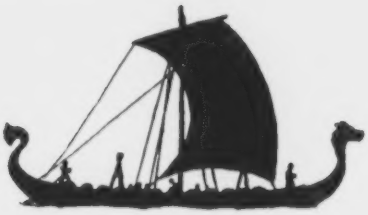
Nu'Sun: Asian American Voyages 500 BC
by Gunnar Thompson

Who Really Discovered America? by Stephen Krusky (PS)

Primary Source • Watertown, MA • http://www.primarysource.org

Materials for Research Groups *(continued)*

VIKINGS:



Ancient Ships on American Shores by Michael Custode (PS)

Viking Raiders by Edward Packard

The Viking Ships by Ian Atkinson

Viking Adventures by Clyde R. Bulla

Strange Footprints in the Land by Constance Irwin

Life Through the Ages by Giovanni Caselli

Who Really Discovered America? by Stephen Krusky (PS)

Adventures of Young Vikings in Jorvick by Robin Page

MARCO POLO/IBN BATTUTA:

National Geographic, "Ibn Battuta: Prince of Travelers," December 1991 (PS)

Ibn Battuta in Black Africa by Said Hamdun and Noel King

The Road to Cathay by Merriam Sherwood

Marco Polo and the Medieval Explorers by Rebecca Steloff (PS)

OTHER EUROPEANS:

Brendan the Navigator by Jean Fritz

Calliope, Sept./Oct. 1990 (PS)

RECOMMENDED FOR ALL GROUPS: "Barry Fell Comments on Ancient America" from ***Cobblestone***, October, 1984. (PS)

Primary Source • Watertown, MA • http://www.primarysource.org

Lesson Three

Student Objective
Students will present their work carefully and clearly and will listen and learn from each other.

Activities
A. Student research groups present their projects to the class.

B. Place all timeline cards (both starter cards made from information included and student-created cards) in a box. Students take turns drawing a time line card and placing it in the appropriate place on the time line.

C. Class looks together at original list of "What We Know and Want to Know" to identify what has been learned and pose new questions which have come up in their research.

Materials Needed
- Timeline cards
- Original list of "What We Know"

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Part II - Three Lessons

Organizing Idea

Columbus and other explorers sailed from Europe during the period in history known as the Renaissance. It is important to learn about this time and place in order to better understand the world from which the European explorers set forth.

Organizing Questions

During the Renaissance, what was life like for people who were wealthy and powerful?

Who were the merchants? How did trade develop?

How did ordinary people live? What was it like to be poor in Renaissance Europe?

What can we learn about the place of religion in people's lives?

What can you discover about the Renaissance that helps to explain why there was an "age of exploration?"

General Objectives for Students

1. Students read and think about social and economic conditions in 15th-century Europe.
2. Through research and writing, students begin to develop an understanding of the context in which the "age of exploration" occurred.

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Lesson One

Student Objective

Students gain some understanding of Renaissance Europe.

Activities

A. Using one or more of the books suggested in the bibliography, students write an essay on life in Renaissance Europe. Have students look particularly for information about:

- the lives of people, wealthy and poor
- systems of government and patterns of power
- introduction and development of new ideas
- growth of trade and cities

The organizing questions may be posted as well.

B. Develop a vocabulary lesson from unfamiliar words found in many of the books. For example, words such as domain, joust, tournament, poaching, Inquisition, heretic.

Materials Needed

- Handout from the *Shape of the World* guide on next page
  (The entire guide may be borrowed from **Primary Source**)
- Books about the Renaissance—see bibliography
- "Columbus' Spain," ***OAH Magazine of History***, Spring 1991

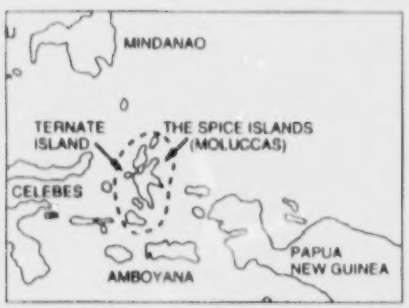
Primary Source • Watertown, MA • http://www.primarysource.org

"As Expensive as Pepper:" The Spice Trade

Open a jar of cinnamon. It has a familiar scent, one you might associate with apple pie, toast or pudding. Smell nutmeg or ground cumin or curry, and more memories of foods will flood your brain. Go to any supermarket and see the shelves of spices lined up in their neat little bottles. We take for granted something that civilizations have been built upon and wars fought over.

The quest for the aromatic seasonings known as spices — a magical word that has stirred people's dreams since ancient times — led to the mapping of vast, previously unknown areas of the world. As merchants and explorers set sail in search of the riches spices represented, they created new charts of the seas. Caravans that traveled the dangerous overland routes to India brought back information that could be translated into maps.

The earliest written record of the trade in spices comes from China in about 300 B.C. The Chinese developed a flourishing spice trade with the Moluccu Islands hundreds of years before Europeans developed their taste for the pungent seasonings. Rome did not begin to trade with Arabia for spices, aromatic woods and fragrant oils until the latter half of the first century A.D.



These wonderful goods had to be carried by camel caravans or in ships over long, tortuous routes from what are now India and the Indonesian islands we call the Moluccas. Bandits, pirates and murderers added to the perils of the journey. Consequently, spices were not only in short supply, but very expensive as well. Cloves, used for preserving meats, sold for more than the meats themselves. Pepper, the spice we sprinkle so liberally today, was so expensive in earlier times that it was sold by the individual peppercorn! A common European expression of the Middle Ages was "as expensive as pepper."

Arab traders in the spice-selling business made fortunes by controlling the flow of spices and exporting them to countries where demand was high. Spices were often adulterated with impurities (some of them dangerous) to increase the margin of profit, even though this practice was forbidden in Rome, Baghdad and Alexandria.

Why were people of earlier centuries willing to pay so dearly for items we take for granted today? A few grains of spice, adding flavor to bland food, made a difference in the lives of persons accustomed to a diet that was monotonous, heavy on roughage and often inedible by today's standards. More importantly, in an age without refrigeration, spices played a role in preserving meats from rotting — or, at least, in concealing the spoiled taste. As the demand for spices grew, the spice merchants controlled the trade with a tighter grip on their sources. For several hundred years, the location of the Spice Islands was known only to the controlling Arab caravans.

The spice monopoly was broken in the fourteenth century when the great Venetian adventurer, Marco Polo, returned from the Orient with tales of golden cities and of the places where spices were grown: ginger in China, cinnamon in Ceylon, pepper in Borneo and clove trees in the islands of the East Indies. Polo's stories set loose a "spice rush" similar to the gold rushes of the nineteenth century. For the next two hundred years, expeditions set sail from European ports in search of the fabulous places where spices grew on trees.

Many expeditions financed by the competing countries of Spain and Portugal were lost. Ships were cramped, leaky and often became coffins for crew members. Rotten food, scurvy and the lack of medical care made life aboard these ships miserable. To compound the problems, most charts were notoriously unreliable. As a result most adventurers sailed into the unknown waters with little chance of returning. Despite these dangers, merchants were still able to find investors and sailors willing to risk wealth and life for the spices.

In 1498, Vasco de Gama reached the spice-rich ports of India and spurred other seafarers to set out in search of the Spice Islands. Among them was Ferdinand Magellan, who died on the round-the-world expedition that finally added the Spice Islands to the maps of Europe.

Today the Indonesian Republic administers the Spice Islands, also known as the Moluccas. Visitors to these beautiful and peaceful islands may find it difficult to believe that they were for so long the objects of greed, espionage and warfare.

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Lesson Two

Inquiry Discussions: To introduce these discussions, read aloud the following passages. Then pose questions for discussion.

1. "The sheep of Spain, some three million of them, belonged to the Mesta, the sheep raisers' corporation, which was really a state within the state. Every spring, these vast flocks of sheep were driven from the high plains of Castile to the mountains . . . for summer grazing. In the fall, they were brought back. They had guaranteed free passage. The sheep walks could not be enclosed by the peasants, who twice a year saw their land spoiled and their woods cut down by the Mesta shepherds. The wool was sold for gold and the Mesta paid no one for the damage done. The owners of the sheep received the money and paid taxes to the king."

   Who do you think was considered more important in Spain, the owners of the sheep or the farmer/peasants? Why?

   What do you think eventually happened after the land was repeatedly damaged?

   Using the information you have learned from your readings, what do you think about the farmer/peasants' chances of stopping the practice of driving the sheep across farmed land?

   What would you have done if you were: a peasant? an owner of sheep? the King? (Remember, the King received a great deal of money from taxes.)

2. "Portuguese sea-captains needed spices. The huge European demand for pepper was sure and certain . . . The pepper lay within the grasp of the Portuguese—*if* they could pay for it. Trade with India for pepper required gold, so the Portuguese bartered horses, wheat, wine and cheese, metals, and blankets for gold from Guinea (in Africa). Unfortunately, though, the African gold was never sufficient for their needs, so the Portuguese . . . took African cities by sword-point."

   What were the Portuguese hoping to do?

   Why wouldn't they just keep the gold they bartered for and forget about pepper?

   In our society today, which is more important, gold or pepper? Can you think of some things that are more important to people in the United States than either gold or pepper?

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Lesson Two (continued)

3. "Before Jews were expelled from Spain (in 1492), they were accused of trying to influence Christians to become Jews. What they were really doing was trying to keep in community with Jews who had "converted" to Christianity to avoid being persecuted. Here is part of the Edict of Expulsion: "Having been informed that in our kingdoms there were Jews influencing some Christians to practice Judaism in secret and cause other Christians to leave the holy Catholic faith . . . we order these Jews in all the cities, towns, and places in our kingdoms and dominions to live apart from the Christians, hoping in this way to remedy the evil." [This didn't work, according to the authorities, so] "Therefore we, by and with the counsel and advice of some prelates and high noblemen of our kingdoms . . . command . . . all Jews, of whatever age they may be . . . by the end of the month of July next, of the present year 1492, to depart from all our said kingdoms and dominions, with their sons, daughters, man-servants, maidservants, both great and small; and they shall not dare to return to, nor live therein, either as residents, travelers, or in any other manner whatever."

   This edict is signed by King Ferdinand and Queen Isabella. Give reasons why you think they did or did not have a right to issue this edict.

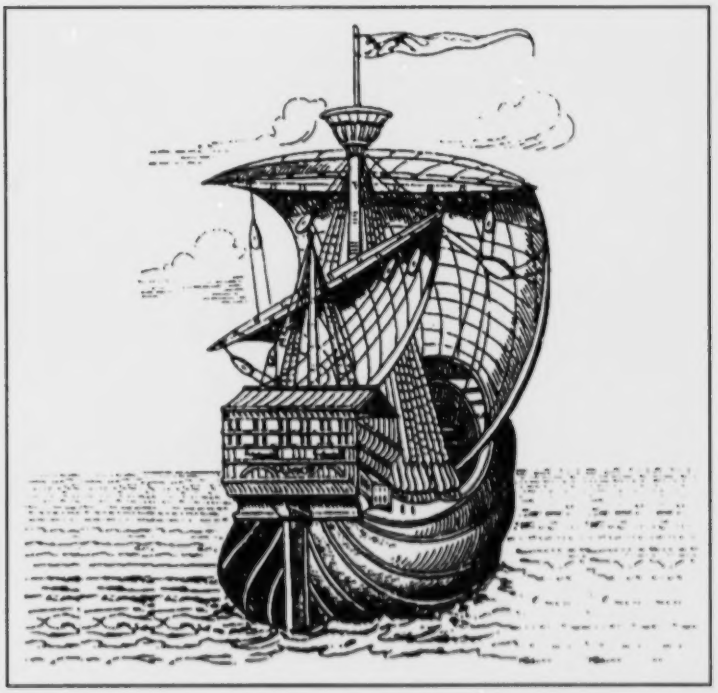
   Using what you know from your readings, what motives, other than religious ones, might the King and Queen have had?

   If you lived in Spain in 1492 and your best friend was being made to leave because he or she was Jewish, what would you try to do?

Information for this lesson is from:
The Other 1492: The Jewish Experience.
Bureau of Jewish Education, Newton, MA.
The Shorter Science and Civilization in China
by Joseph Needham, Colin Ronan, Ed. Cambridge University Press, 1986.
Dangerous Memories. Chicago Religious
Task Force on Central America, 1991.

Primary Source • Watertown, MA • http://www.primarysource.org

Voyages



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Voyages - Seven Lessons

Organizing Idea

Conditions and circumstances during the European Renaissance provided incentives and context for the many voyages of exploration undertaken in the 15th and 16th centuries. The motivations of these explorers, and of the sovereigns who sponsored them, were complex, involving a mixture of national pride, the development of capitalism and international finance, religious conviction, bravery, and a personal lust for wealth and fame.

Organizing Questions:

Who were the most well-known European explorers of the 15th and 16th centuries?

From what countries did they sail, and what lands did they explore?

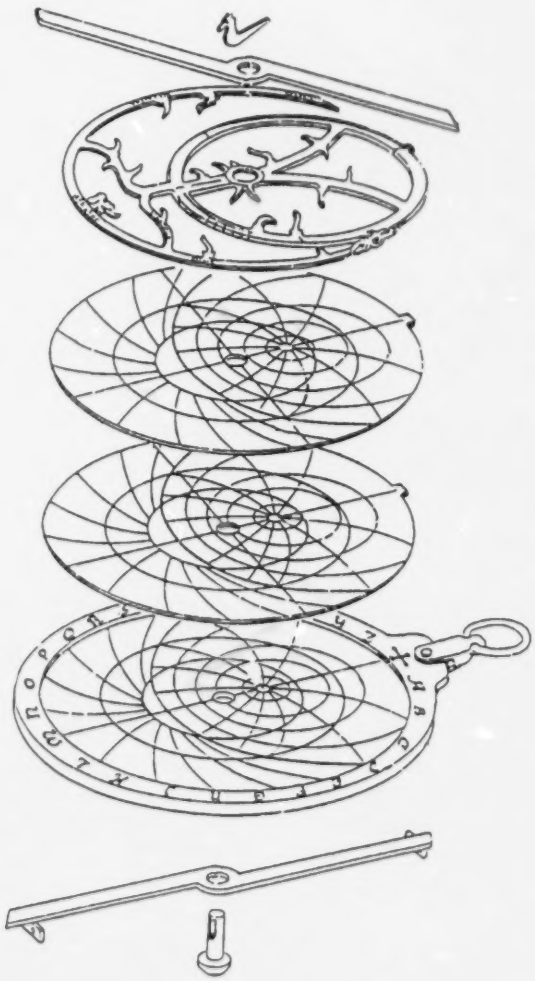
What preparations were necessary to organize a voyage of exploration?

What kinds of maps and other nautical aids were available to these seafarers?

What might it have been like to be a sailor on one of those ships?

General Objectives for Students

1. Through simulation, students gain understanding of the difficulties, complexities, and entrepreneurial nature of exploration.
2. Students are introduced to the sailing technologies available to 15th and 16th century explorers.
3. Students learn about some of the men engaged in exploration from Europe in the 15th and 16th centuries.



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Lesson One - Classwork plus research homework

Student Objective

Students will gain a closer understanding of the "age of exploration" by researching the life and times of one particular person.

Activities

A. Initial discussion: Which European explorers do you know about? Make a list. What do you know about them? Where did they explore and why? What resulted from their explorations? What more would you like to find out? As we study, we will make timeline cards with important dates and events in order to continue to enrich our timeline.

B. Each student chooses an explorer from the following list. (Add other names contributed during student discussion.)

Ferdinand Magellan	Francisco or Gonzalo Pizarro
Vasco da Gama	Sir Walter Raleigh
Francisco V. Coronado	John Cabot
Christopher Columbus	Giovanni da Verrazano
Hernando Cortes	Vasco de Balboa
Sir Frances Drake	Martin Frobisher
Amerigo Vespucci	Henry Hudson

Students are asked to research the life and journeys of one explorer using the included worksheets as a guide, then to write a narrative report. One class period may be devoted to getting started, the remainder of the project is homework. At the end of the **Voyages** section students submit the completed work sheets and the narrative report.

C. Students place their timeline cards as appropriate on the class timeline.

Materials

- Chart paper to record "brainstorming" ideas
- A packet of work sheets for each student
- Books and research materials from school and local libraries

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Explorer Research

Student Worksheet

Explorer's Name _____

What I know:

What I think I know:

Questions I am going to ask and then research:

Researcher's name: _____ Date started: _____

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Explorer Information

Student Worksheet: Explorer Report

Find out all you can about your explorer and the time and place in which he lived.
Use this page to help you organize your information.

Explorer's Name: _____

Year this explorer *died*: _____
Year this explorer was *born*: _____
_____

Background information:

Name of country he came from: _____

Name of country he sailed for: _____

Name of monarch who sponsored him: _____

Important information about the country and monarch the explorer sailed for:

Background of explorer's family (social class, religion, nationality) and other family characteristics:

Education:

Occupations before going to sea:

Reason(s) for becoming an explorer:

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Voyage Information

Student Worksheet: Explorer Report

Explorer's name: _____

Type of ship: _____

Departures (You may have only one, or there may be more than one.):

Place:	**Dates:**
_____	_____
_____	_____

Landings:

Place:	**Dates:**
_____	_____
_____	_____
_____	_____

Place departure and landing dates on your class timeline.

List some of the things that happened on this voyage:

Include a map showing the route your explorer travelled. Check here when you have created the map:

Summary: **What was accomplished by this voyage? What do you think of your explorer and his endeavor? List some of your ideas here.**

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Reading for Research

Student Worksheet: Explorer Report

Book name: _____ **Pages read:** _____

Notes on what you learned from this book:

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Lesson Two - Reading Aloud

Student Objective

In becoming aware that Africans were part of the "age of exploration," students consider questions such as, *What information has been included in history texts?* and *Why has some historical information been left out?*

Activities

A. Introduce the idea that African people were early participants in explorations to the Americas. (Background information sheets are included on the following pages.) Have each student read the historical fact sheet about Estevan and think about the question posed at the end.

B. Introduce ***Walk the World's Rim*** by Betty Baker, or, for older students, ***The King's Fifth*** by Scott O'Dell. Read one of these two books aloud throughout the next few weeks.

Materials Needed

- Background information sheet, including the story of Estevan (included)
- Classroom copy of one of the read-aloud books
- ***Walk the World's Rim*** by Betty Baker
- ***The King's Fifth*** by Scott O'Dell

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The Story of Estevan

Student Worksheet

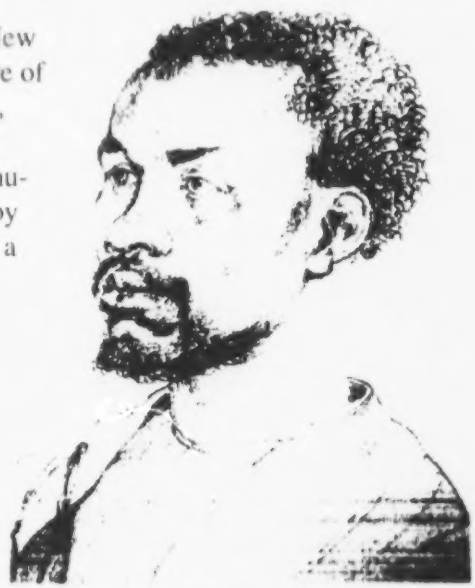
(This story, from historical sources, formed the basis for ***Walk the World's Rim*** and also ***The King's Fifth***.)

In 1527 an explorer named Pamfilo de Narvaez sailed from Spain to the New World. With him in his crew was Estevanico (or Estevanillo). Estevan, as he may have been called, was born in Morocco, Africa. He was about 30 years old and a slave when he sailed with Narvaez. The expedition of 506 people landed in present day Florida and wandered in swamps and pine forests for months. Encounters with Indian peoples trying to defend their lands resulted in bloodshed on both sides. By the end of this part of their journey, only 240 people from the Narvaez expedition were still alive.

These survivors set sail in the Gulf of Mexico. No records exist to tell us where they landed next but after a year, only four men were still alive, one of whom was Estevan. After arriving in Texas, the small group wandered for eight more years throughout Texas and Mexico and were seen as "medicine men" by Native Americans.

Estevan learned several American Indian languages. His three companions finally decided to return to Spain, but Estevan remained in Mexico and, because of his skills, became a guide to European adventurers who began coming more and more frequently to the "New World." One of those adventurers was a friar named Marcos de Niza, who, along with Cortez and Coronado and others, wanted to find the famous *Seven Cities of Zuni*. These explorers were intent on finding wealth, and they had been told that these cities were made of gold.

In truth, there were no cities of gold in the land we call New Mexico. The Zuni built their cities out of adobe, a mixture of clay, sand, and straw. When Marcos de Niza and his men, guided by Estevan, marched into Zuni territory, battles erupted and many Zuni died in the defense of their communities. A short time later, Estevan was killed, apparently by the Zuni, who might have felt that they were betrayed by a friend.



We may not agree with Estevan's participation in acts against the Zuni, but his story is remarkable. He was brave, adventurous and clever. During his lifetime he learned to live in three worlds: African, European, and Native American, learning languages of each. Why do you think that history books do not often mention Estevan and his intriguing story?

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Africans in the New World

As the native population in the Caribbean dwindled, the Spaniards turned to slaves from Africa for their labor supply. African people were captured and brought to the Americas in the early 1500s, and by 1520 Africans outnumbered the Spanish colonists. Through their labor, African slaves enabled the Spaniards (and later the English, French, and Dutch) to run huge sugar and tobacco plantations in the Caribbean. These plantation crops soon replaced gold mining as the profitable enterprise in the islands.

Like the Taino Indians, many African slaves in the Caribbean escaped into the island hills. As their numbers grew, these escaped slaves, known as maroons, built secret villages to avoid being recaptured.

The first Spanish settlement in Florida, founded in 1526, included one hundred African slaves from Hispanola. When the Africans rebelled and took refuge with local Indians, the settlement collapsed, and the Spanish settlers returned to Hispanola. Africans who remained in Florida became the first non-Indian inhabitants of North America. Throughout the centuries which followed, Blacks and Indians intermarried, creating the first large group of biracial people in the Americas.

There is additional evidence for the early presence of Africans in the "New World." Following are some useful pieces of information which you may want to share with students.

- 1501 C.E. provides the earliest reference to "negroes" coming from Spain to the Americas. Authorities gave instruction that Moors, Jews, or "new Christians" (usually converted Jews) were not permitted to go the 'Indies' (as Europeans called the Americas and the Caribbean Islands) or to remain there, but "negroes born in the power of Christianity were to be allowed to pass to the Indies." From this time forward Africans were frequently brought to the West Indies. They were brought as slaves to collect gold and later to work on plantations.
- We are told that before 1505, many Africans escaped to live with Native Americans. The Governor of Hispanola wrote, "They fled among the Indians and taught them bad customs and never would be captured." We also know that many Africans died. King Ferdinand wrote to the Colony, "I do not understand how so many negroes have died; you must take much care of them."
- In 1513, Balboa wrote that he had found a race of black men (probably in Panama).
- By 1528, there were close to 10,000 black men living on Hispanola, Cuba, Jamaica and on the mainland.
- In 1559, the town council of Santiago de Chile granted one black man, Tome Vasquez, land within the town. He apparently received the same treatment as white men.

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Africans in the New World *(continued)*

- Africans served on a crew building the first European-style ships to be constructed on the east coast of the Americas. The leader was Lucas Ayllon and the year probably was 1520. Ships were already being constructed by Balboa's men on the west coast, and Blacks were included among the laborers there, as well.
- There were slaves with Cortez when he landed in the "New World" in 1522. State papers of Spain from that time record that Africans were considered "the strength and sinew of the western world."
- Africans arrived with other explorers as well—with Coronado in New Mexico, for example, and with Hernando de Alarion. An African man with Alarion's expedition was the only person to volunteer to carry a message across Zuni territory in New Mexico to Coronado.

Material from **Cobblestone**, Jan. 1992, and **The American Anthropologist,** 1905.

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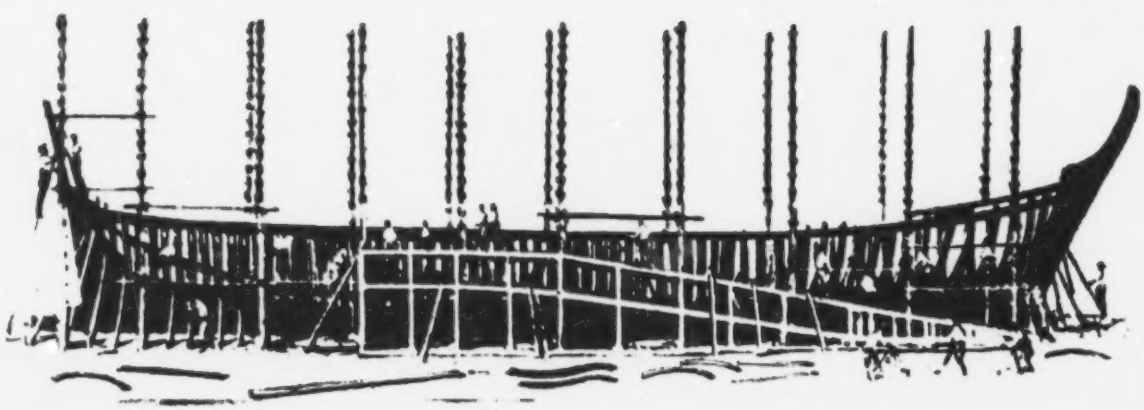

Lesson Three

Student Objective
Students add to their knowledge about maps and instruments, and provisioning for a sea voyage.

Activities
A. Introduce the book, ***The Elizabethan Explorers***. Explain that Spain and Portugal were not the only countries to sponsor explorations in the 15th and 16th centuries. From the book, share ideas from the "To the Reader" section, noting the fact that Richard Hakluyt was alive in the late 1500s and that he collected stories directly from explorers themselves! Mention that first person stories and extant documents are excellent sources of information about the past.

B. Ask students to read the chapter on Richard Hakluyt in ***The Elizabethan Explorers***.

C. Discuss questions 2 and 4 at the end of the chapter. What questions do students have about the reading?

D. Identify and place information on the timeline.

Materials Needed
- A copy of ***The Elizabethan Explorers***

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Lesson Four

Student Objective

Students consider the challenge of mapmaking in the absence of airplanes, satellites, cameras and computers.

Activities

A. Introduction: Look at the 1540 map on page 44. This was the first map published in Europe to show continuity between the two American continents and no connection with any other land mass. Students color in the land and water for clarity.

B. Ask students to draw a "mental map" of North America *as we know it today*, including its major rivers and lakes.

C. Discussion: Have students compare *their* maps with a current map of North America. What is the same, what is different? Now add for comparison the 1540 map. How do modern cartographers obtain information (satellite imaging, aerial photography, radar). Compare this to the sources available to early map makers (even earlier maps, reports of travelers, rough sketches, compass bearings from explorers' logs, charts by early explorers). What conclusions can be drawn about the accuracy of each map? What stories do the "freehand" maps and the antique map tell, even though they are not accurate?

D. Related homework assignment: Work with latitude and longitude using information from Columbus' first voyage. This worksheet may be found in ***Cobblestone,*** January, 1992.

Materials Needed

- Paper and markers
- A copy of the 1540 map for each student
- A current map of North America
- ***Cobblestone***, January 1992

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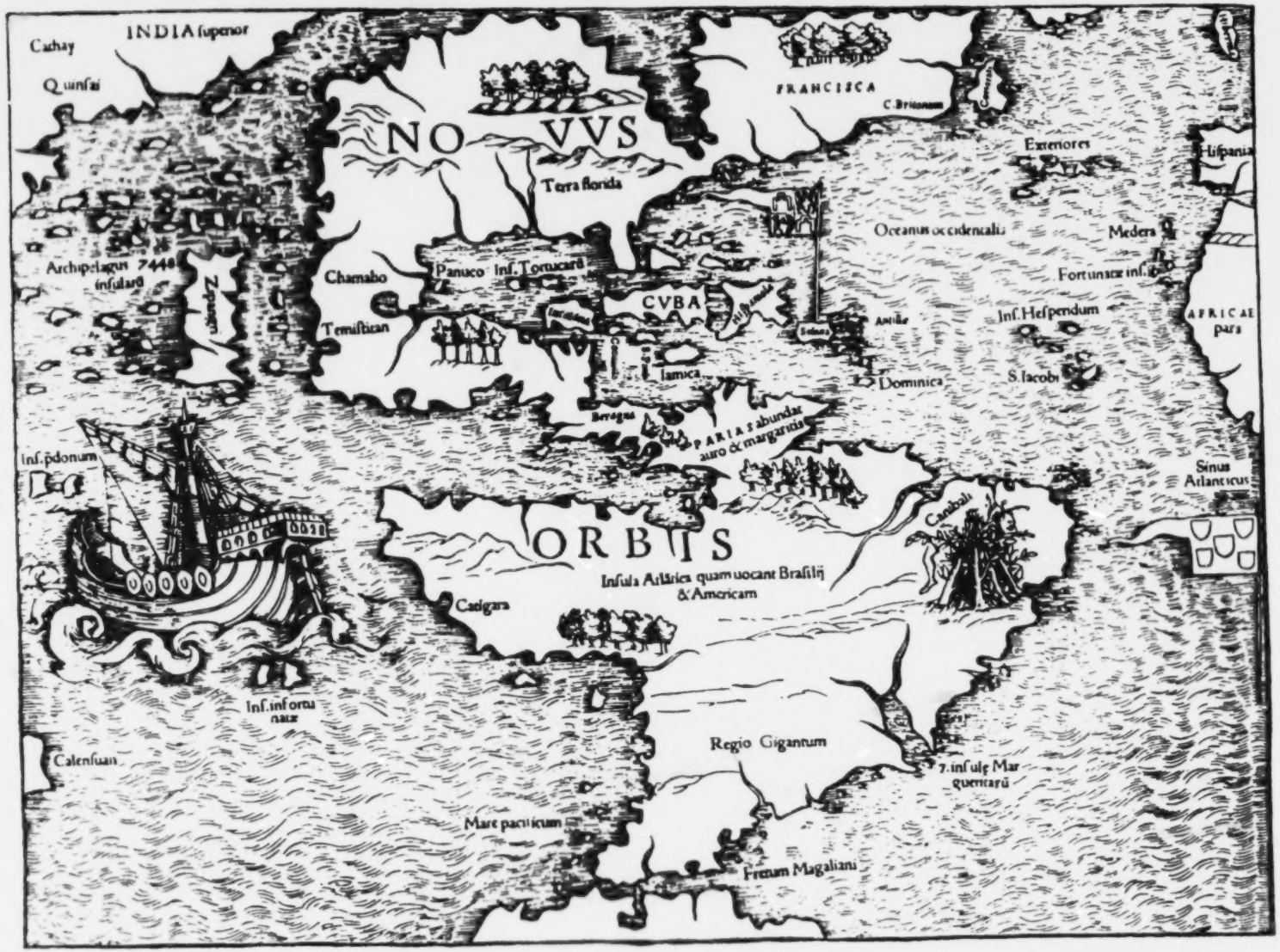

Map printed in 1540 by Sebastianus Munsterus, from ***America in Maps: Dating from 1500 to 1856***, edited by Egon Klemp (N.Y. Holmes and Meier 1976).

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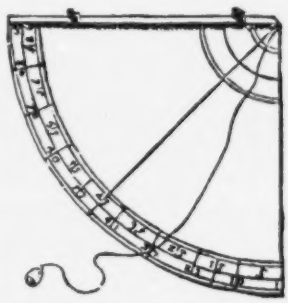
Lesson Five

Student Objective

Students gain an understanding of navigation and construct a compass or a quadrant.

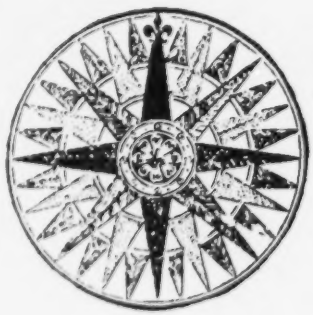
Activities

A. For homework, students are assigned the following readings: "Finding the Way," pp. 22-23 of ***Explorers and Mapmakers***. "Tricks of the Trade," pp. 28-29 of ***Explorer***.



B. Discussion: Using information and ideas gained from these readings, students can discuss such questions as, What does *navigation* mean? Why did (and do) sailors need instruments of navigation? What were some of the instruments used in the 15th and 16th centuries? Which ones are still in use today?

C. Each student chooses to construct a compass or a quadrant. The instruction sheets offer background information as well as step-by-step directions. Allow time for these constructions, or arrange to have the students do this activity in math or science class.



Materials Needed

- ***Explorers and Mapmakers*** by Peter Ryan
- ***Explorer*** (Eyewitness Books) by Rupert Mathews
- Two instruction sheets from ***Shape of the World*** (included)
- Materials listed on the instruction sheets

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Making Your Own Compass

Purposeful exploration requires tools to find one's way. One of the most important tools for early explorers was the magnetic compass. The Chinese were the first to discover that a piece of magnetic rock called *lodestone* (also called *magnetite*) would orient itself in a north-south direction when hung by a piece of string. Lodestone could be used in making a compass, allowing sailors to steer their ships without relying on the stars for direction.

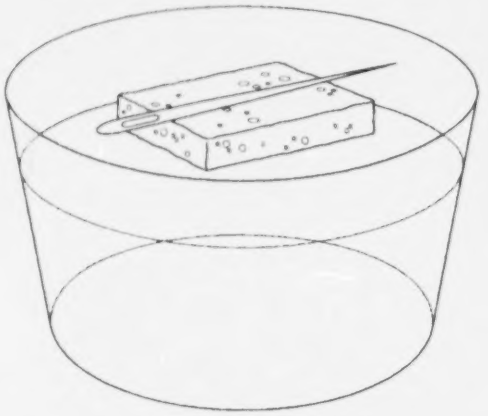
Certain materials, such as iron and steel, can be magnetized. One way to make a compass is to stroke a pin or needle in one direction with a magnet. In this activity you will make your own compass.

PURPOSE:
To make a compass and use it to navigate.

MATERIALS: (per group of students)
1. Magnet
2. Pocket compass
3. Steel pin or sewing needle
4. Thread
5. Styrofoam cups
6. 4" x 6" cards
7. Clear plastic wrap
8. Tape
9. Scissors
10. Ruler

PROCEDURE:
1. Take one sewing needle or pin and carefully stroke the pin with a magnet. Be sure to stroke the pin in the same direction each time.

2. Fill a styrofoam cup about two-thirds full of water. Place a pin on a piece of styrofoam as illustrated. Carefully float the styrofoam holding the magnetized needle or pin.



3. Let your compass settle down. Use a pocket compass to determine the direction in which your magnetic needle is pointing. Where do the needles on the homemade compasses of the other students point? Carefully pick up the cup and floating needle and turn around slowly. In what direction does your homemade compass point now? Identify which end of your needle — sharp or blunt — points north.

4. Tape your compass (cup, water, and floating needle system) onto a card. Line your compass and the pocket compass up side to side. Mark the card with the directions north, south, east and west. You can also mark the intermediate directions, northeast, northwest, southeast and southwest.

5. To sight an object, place a pencil across the top of your cup. Aim the pencil at the object as you would aim an arrow. Be sure the pencil crosses the cup directly over the needle. Estimate the direction of the object.

Student Worksheet

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Building a Quadrant

The *quadrant* is an early instrument of celestial navigation that was used by mariners, including Columbus. The object most commonly sighted through the quadrant in the northern hemisphere was Polaris (the North Star), which, unlike most other stars, does not seem to move across the sky because it lies very close to the direction of the earth's axis of rotation. Mariners sighted Polaris through the vanes of the quadrant and read the angle indicated by the weighted string to determine their approximate latitude.

MATERIALS:

1. Protractor
2. Heavy cardboard or thin wood
3. Drinking straw
4. Rubber cement
5. Nail or tack
6. String
7. Small lead fishing sinker or other weight

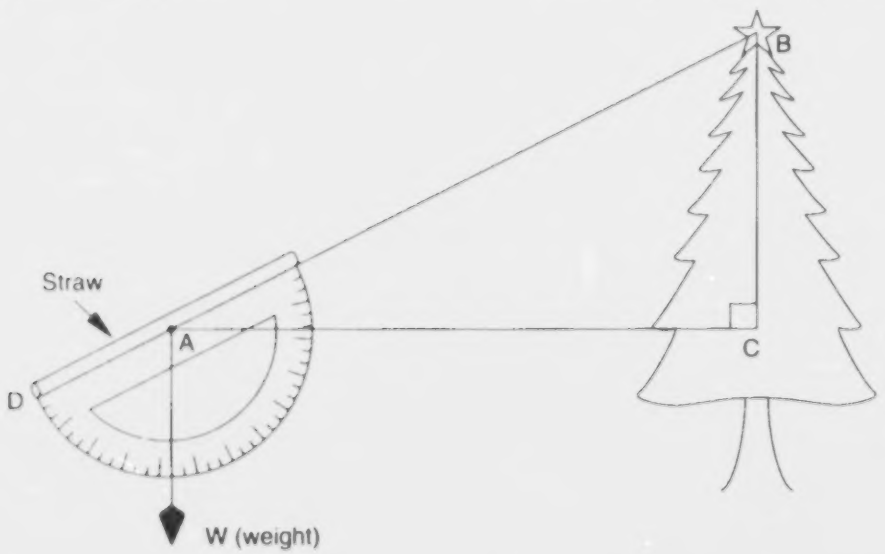
PROCEDURE:

1. Use rubber cement to fasten the protractor to the wood or cardboard, so the straight edge of the protractor is aligned with one straight edge of the wood or cardboard.

2. Use rubber cement to fix the straw to the straight edge so you can sight through it.

3. At point A, insert the tack or nail through the protractor and into the wood or cardboard.

4. Attach the weight to one end of the string and tie the other end around the nail so the weight dangles as shown.



To use, hold the protractor vertically so the edge with the straw is at the top. Put your eye at the end of the straw and sight an object through it. Allow the weighted string to hang free. When the object has been sighted satisfactorily, turn the quadrant carefully on its side and read angle DAW, the angle indicated by the string. If you can sight the North Star through your quadrant, the angle BAC (180°–(90° + DAW)) will correspond to your latitude. Imagine the difficulty of using this tool, as Columbus often did, on a pitching deck!

Student Worksheet

Lesson Six

Student Objective

Students learn to *imagine* and *record* what it would have been like to journey in unknown waters to an unfamiliar place.

Activities

A. *Forming a Crew.* Students divide into crews of three or four. One basic rule is that no ship may sail until every member of the class is happily part of a ship's crew. It is important to stress that people with many different skills are needed for this project: researchers, artists, listmakers, sailors, cooks, carpenters, people who can fix things, people who can sew, someone with sharp eyes, etc.

B. *Preparations for Sail.* Students work within their groups to design a ship, make lists of crew and provisions and write a petition to the reigning Monarch. Plan a dramatic event: a council meeting in which the crews can formally present their petitions to the King and Queen (adult volunteers).

C. *The Voyage Begins.* Using maps included in the crew packets, students set their course and establish the route. Each day for two weeks, crew members keep logs of the events of the voyage. To help students get started with this, you may want to read excerpts aloud from ***I, Columbus*** and samples of student logs included here with *"One Teacher's Story."*

D. Students assemble the crew packets, together with their daily logs, to share with the class.

Materials Needed

Teacher

- Background reading: *"One Teacher's Story"* by David Millstone (included)
- Additional notes for teachers (included)
- Copy of ***I, Columbus*** by Connie and Peter Roop

Students

- Crew Work Packets for student teams (included)
- Journals or notebooks for logs
- Books on ships, sailing and exploration

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Crew Work Packet

Student Worksheet

Preparation for sail

In order to sail, there is much work to do. Here are your assignments:

1. *Design your ship*: Using books from classroom or library, make a sketch of the ship you will use (a caravel or a carrack, for example).

2. *Crew roster*: Starting with the classmates who are in your crew, "hire" enough people to sail the ship. You'll need 20-40 people's names. Make a list of the various jobs to be done by the crew on board your ship and decide who will do them.

3. *Provisions list*: You will need food and drink for three months. Remember, refrigeration and canned food are not available. In addition to planning for your provisions, you will need to consider what kinds of trade goods, navigational equipment and sailing gear you will need. Remember, if it's not written down on your provisions list, you can't use it later while you're sailing.

4. *Petition*: Write a petition to the King and Queen. Put in writing your reasons for wanting to sail and your ideas concerning your destinations. Be sure your language and your handwriting are very elegant; you are trying to convince royalty!

The Voyage Begins

1. On the map provided, draw the route your ship will take.

2. Keep an individual log of your journey, and of the events and adventures along the way. If something is missing from your provisions list, describe what happens when you get out at sea and realize you have forgotten it. What did you see along the way? How is the crew getting along with each other? How is the weather affecting your journey? Did you arrive at your destination?

Brainstorm other questions you want to answer in your ship's log.

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Crew Work Packet *(continued)*

Student Worksheet

Sample Provisions List

Food
dried beef
salt pork
salted haddock
flour
olives
limes/lemons
ale/rum
dried fruits (raisins)
onions
vinegar

Navigational Supplies
sextant
astrolabe
compass
maps
log book

Sailing Supplies
extra line
anchors
sewing equipment
extra sail material
hand tools
tar
lumber
iron
clothing (foul weather gear)

Weapons
cannon
muskets
blunderbus
crossbow
pikes

Trade Goods
metal tools
pans
blankets
knives
trinkets (junk jewelry)

Fishing Supplies
fishing line
hooks
bait
poles
net

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Crew Work Packet *(continued)*

Student Worksheet

Ship Sketch

Draw a sketch of your ship here.

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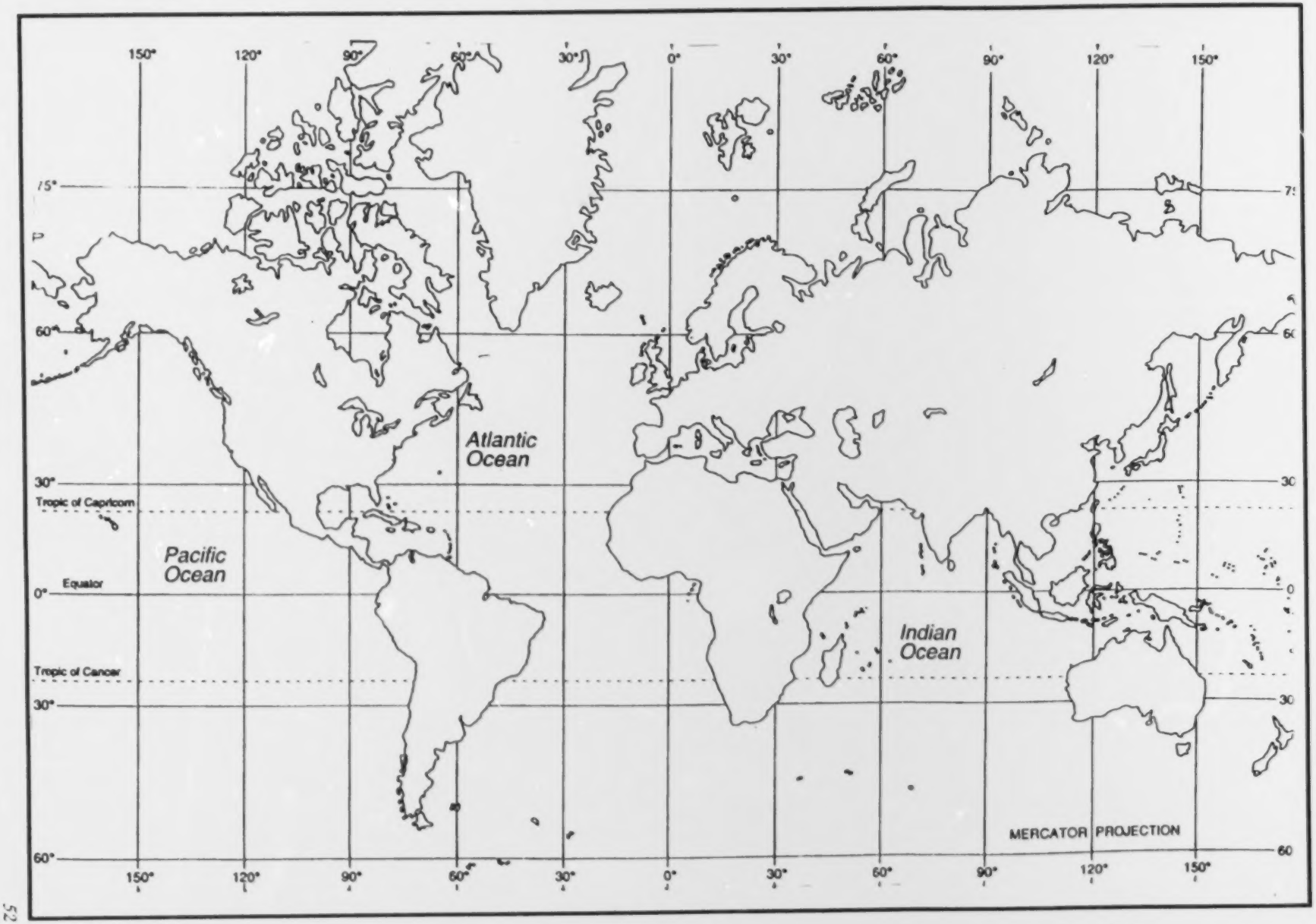

Student Worksheet

One Teacher's Story

By David H. Millstone (Marion Cross School, Norwich, VT)

Exploration and Discovery

We are sitting at the Royal Court in the late 1400s. Rich carpets from Cathay cover the floor and court musicians play against a backdrop of bright banners. The mariners of the realm are here today, seeking a charter to sail into unknown waters in search of silks and spices and untold riches. The Queen, bless her, has just revealed that she would love to get noodles from the Orient. The sailors came prepared to recite the qualifications of their crews, prepared to show diagrams of their sturdy ships, but they are taken aback by Her Majesty's unexpected request. The King notices their distress, and asks if they are familiar with noodles:

"A noodle, Your Majesty, is kind of slimy and you eat it."
"Slimy and you eat it . . . Yes, over there."
"A noodle is a carbohydrate, Your Majesty —"
"From the land of Carbo . . . "
"Well, a noodle is sort of like he said. It's slimy, and about two inches long, and it comes in whatever shapes the maker wanted to make it."
"I see."
"It's made from flour, flour and lots of other . . . substances. You see, in the Orient, they grow flour and then they make it into a fine powder and they mix it with lots of other things, like yeast, that they use to make the noodle rise, like bread."

The King, too, is a strange fellow. In the middle of the presentation by the crew of a ship called L'Etoile, he pulls a lunch bag from his robe, opens it, lifts himself off of the throne, and points in the captain's direction:

"Do you know what this is?"
"Yes . . ." Allison hesitates. "It's a banana, Your Majesty."
"A banana . . . " And turning it upside down and then right side up again, so that the peel flops about, yellow and brown, "Do you know what this is? *This* is a very ripe banana, an overripe banana." And he launches into a speech about bananas, and how he loves bananas, and how he would be delighted to send out a ship that would bring him back bananas that were not overripe, and was this ship ready to do that?
"Of course, Your Majesty," the Captain answers.
"How will you store them?" the King challenges.
Frantic glances and stalling for time: "Perhaps my fellow crew member could describe that to the King."
Kevin: "We will put them in jars."

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One Teacher's Story (continued)

Preparations for the Voyage

My sixth graders study early American history. Each year, after an introductory unit on research skills, we spend three months or more looking at the native peoples of the Americas and the Europeans who stumbled onto this land. We look at some of the civilizations that thrived in the Americas before the arrival of the Europeans, and we look at the whole notion of "discovery." In what sense can we say Columbus "discovered" America, when people were there greeting him from the beaches?

This unit is an opportunity to extend research skills, learning about Viking and early Chinese explorers, the voyage of St. Brendan, and the long trek across the Bering Land Bridge. By the time they're ready to set sail themselves, these sixth graders understand that their voyages are among many made over hundreds of years.

At the center of our study of the "age of exploration" is an elaborate simulation game. Children choose classmates to be in their crew of four, and each crew divides up the work to be done. They must design a ship, true to the period, and hire enough seamen to sail it:

"How big should our ship be, Mr. Millstone? How many men will we need?"

"You've just finished a unit on research skills—where could you find that information?"

They must provision the ship, using foods of the period. Exactly how many gallons of beer and wine and water do you want to take on board? Will your ship hold that many tons? What kind of containers will you use? Where will various supplies be stored? What trade goods are you taking? Children research the customs of that period with enthusiasm. They know that once their ship clears harbor, they can use only those supplies written on their provisions list.

Captains prepare a formal written petition to the King and Queen, asking to argue their case at a meeting of the Royal Council; the entire crew then appears in person at a Council meeting. The children don't know beforehand who the reigning monarchs are. For several years, the King and Queen were played by our principal and his wife; another year, they were two veterans of a local community theater; this year, I found two willing teachers in nearby schools. It is a day of solemn ceremony, and the children all come in costume, as do the lords and ladies of the court, who are parents and teachers. Taking a tip from another teacher and actress, I spend several days before the Royal Council meeting instructing children in courtly behavior and speech, and giving them suggestions for appropriate dress.

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One Teacher's Story (continued)

Designing the World

Once permission to sail is granted, the sailors are off on their quest. Children know that they can't rely on their knowledge of real explorers and real continents to help them on this journey. The goal here is to give children a sense of going off into the unknown, leaving the familiar world behind.

Before this phase of the simulation begins, I've prepared a detailed map of "the world." I draw the outlines of what we will consider the known world, and post a clean copy in the Royal Library, where each ship's navigator can make an individual copy to form the basis of a chart. I also design beforehand the shape and location of the other lands which await discovery, both the major continents and the small islands. I decide on major rivers, and the locations of native settlements, large and small. I include information about centers of wealth and power in this new world; some areas are rich in gold, others in timber and unusual plants. Planning everything beforehand means that I don't have to make many on-the-spot decisions as the game progresses. In that way, I can also avoid rewarding favorite ships. The land and people are there, waiting to be discovered; luck plays a role in these adventures, as it did for the actual explorers.

Daily Sailing Chores

The daily sailing can be as complicated as your imagination and time allow. Typically, I'll sit down with each crew once during a 45-minute period. We look over their daily journal entries, to make sure that each crew member is up to date. Sometimes they'll have some research to do before they can sail on. Looking at my master map, I can give them information about the currents in their present location, and ask, "What direction would you like to sail today? What are your plans?" Crew members and the captain decide what they hope to accomplish during their day of sailing. Some places have reliable trade winds, and the ships are allowed to sail a steady 7 knots. Other places are more subject to storms, and crews must decide whether to put on extra sail to gain extra speed, but risking a snapped mast. Sometimes, stuck in the doldrums, for example, a ship won't move at all in a day, except for drifting in the current.

Some decisions are made by spinners, rolling dice, or drawing fate cards. At the start of the game, for instance, sailors choose from one deck of 40 or 50 innocuous fate cards—the crew is working well, the sails are tautly rigged, and so on. As the voyage moves into its third week, though, they select from a different deck, where more difficulties appear—morale is low, isolated incidents of sabotage occur, rumors of mutiny spread throughout the ship. As the ship draws closer to the lands I've hidden on my map, crew members find fruit in the waters, see strange land birds flying overhead, discover unusually carved sticks. Land is obviously close, but where? (Many of these incidents are based on historic records, such as the log kept by Columbus.)

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One Teacher's Story (continued)

As the voyage goes on, the chances of contracting scurvy increase, and I pass out information on the disease to the afflicted ships. I've also assembled a library of articles on storms at sea, navigation and navigation instruments, daily life of sailors in the 16th century, nautical terminology, heraldry, trade goods and spices, and so on.

Depending on my social studies schedule and the interest of the children, this sailing phase of the simulation lasts from one to two months.

Keeping Track

Each student keeps a daily log, recording the events of their day on board ship. The carpenter, for example, describes his frustrations at trying to build a rat-proof partition in the hold; the cooper is busy with his barrels. The ship's navigator attempts to maintain charts and to plot the ship's position each day, using the available astrolabe and compass. (From time to time, they receive their latitude; longitude, though, is only estimated through deductive reasoning, keeping track of direction and distance traveled.

While all this is going on, children are also carrying out other common social studies assignments: learning vocabulary, reading in their textbooks, completing map assignments, writing a research report on an explorer of their choice. Some of these other outside assignments have a direct bearing on each ship's success. Crew members who score consistently well on the sailing vocabulary quizzes, for example, will find their ship covering more distance in a day; it's logical that a well-trained crew would sail the ship to its best advantage.

Exploration and Discovery is not an easy unit for children; almost every night brings a homework assignment of some sort. Children learn early on that they need to make extensive preparations, and they learn as the game progresses that they have to make difficult decisions together. The work is well worth it, however, both for the teacher and for the children. It's certainly one of the most stimulating and successful units of the year.

> "I learned how to work better with other people and was given a rough sketch of how it is to be working on a ship in that time period. I also learned how to make important decisions and how fun Social Studies can be." R.O.

> "I learned quite a few things during this unit. I think I mainly learned the experiences of a hard working sailor. Now I realize all the decisions and hard work they had to do. I also found myself thinking things like, "Where are we?" and "Where are we going?" I kind of felt as if I was in the middle of nowhere. I also know how relieved the sailors must have felt when they found land. At least I know I felt a lot safer." M.T.

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One Teacher's Story *(continued)*

Excerpts from Student Logs

Dec. 9, 1575: From above the ship I heard a cry: "Land! Land ahead!" All the men rushed to the decks and hollered and cheered at the prospect of land. We lowered our sails for the night and in the morning the land was gone. One frightened little cabin boy screamed, "The land has fallen off the end of the earth, too, just as we shall." By then he was in a total panic. One of the older boys had to calm him down. Oh, what should I do? The men are in a total panic. I'm scared, too. What if there's no land? What if the sea goes on forever, what if we fall off the earth? But Christopher Colone sailed and found land, so can we. But he referred to it as a maze of islands. Maybe it's the devil's maze, a game board in his palace of death, and we his game pieces. We sailed five knots West, either to death or Paradise.

D.H.

Le vingt et un avril, 1504: Une Storm terrible! We were caught in a terrible storm that drove us 200 miles to the North, the waves are roaring over our ship and the poor sailors on the ratlines are getting very sick. The captain's boy must be having a hard time turning over the time piece.

Z.T.

May 14th: I crawled up the rope to the crow's nest. I heard a slight snort as I crawled up the ratlines. As I got farther the snorting got louder and then the snorting became a snoring sound. I kept on crawling and as I thought, our lookout was asleep. I was about to yell at him when one of the crew men hollered and pointed to a bucket and I started laughing to myself. He crawled up and handed me the bucket and he almost fell off the ratlines laughing but he caught himself and climbed down. I climbed up and poured the water over his head. He instantly woke up and said, "Where am I?" I said, "You're in the crow's nest where you're supposed to be looking out for things and we just hit a sandbar because of you."

H.H.

May 4, 1492: I keep thinking about the voyage on which I am about to embark. My mistress is sad I'm going, knowing she may never see me again. I too share her sadness, yet deep inside me I feel a bright spark of excitement, happiness, inspiration, and adventure. For I know that if we do find the glorious riches and beauty Marco Polo had told of, the glory shall be great when we return. Also their majesties will be pleased knowing that we have carried out their will, and that we converted people to the true faith of God.

B.N.

May 13, 1495: We named the islands "Las Islas Afortunadas" (The Fortunate Islands), naming the largest one "Exito," the twins "Robin" and "James," and naming the farthest out "Peron" after our dead shipmate. We found very little animal life on the islands, only birds and lizards. There were coconuts, fruits, and trees and bushes we couldn't identify. One man who was an amateur scientist collected samples of everything. On the night of the twelfth we had a feast of fish and fruit, and the captain passed out two glasses of whisky to every man.

K.S.

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Additional Notes for Teachers (Lesson 6)

In order to keep *daily logs*, students need to:

- Decide where they are leaving from and where they are going. (They may be able to use an atlas to determine the distance of their journey.)
- Every two or three days, set their present location and express it in terms of latitude and longitude.

Possible log entry topics:

- Weather conditions
- Wind conditions (If the winds are good, the ship could travel at 5-7 knots covering 5-7 nautical miles an hour; a nautical mile equals 1.15 land miles).
- Direction they are sailing; record changes in direction during the day
- Information about what individual sailor-students do for their jobs: captain, cook, keeper of the hourglass (helps to figure out how long the ship sails in a given direction), carpenter (to repair the ship), navigator (using compass and astrolabe), deck hands (who clean the ship, raise and lower the sails, *serve the line,* which means to repair the ropes, climb into the rigging to work, or climb to the crow's nest as lookout).
- Comments on the food
- Crew morale
- Sightings of sea creatures, birds, floating objects, land

A helpful preparation for this simulation will be the development of a number of *fate cards* from which the crews draw daily. Some ideas for these cards:

- The wind comes up and you decide to hoist an extra sail. Your ship makes an extra knot an hour until evening.
- A sudden storm comes up and the ship mast cracks.
- The winds died, the sea looks like glass; you are becalmed (in the doldrums) for two days.
- The sails are well rigged, the ship moves well.
- The crew relaxes, sings songs from home.
- A whale is sighted.
- A tree branch drifts by; does that mean land is near?
- The crew is restless; one crew member talks about mutiny.
- A barrel of dried fish is not lashed and washes overboard in a storm.
- Land birds are sighted.
- The Captain decides to change course.

These fates will be reflected in the daily logs of crew members and they affect the course and progress of the journey. For additional ideas see ***The Log of Christopher Columbus*** by Robert Fuson, and other books on exploration and navigation of this period.

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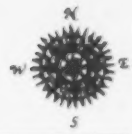

Lesson Seven

Student Objective

Students identify qualities or characteristics which best describe people who become explorers and compare early explorers with those from the 20th century.

Activities

A. Classroom discussion: Have there been people in the 20th century whom we could call explorers? (e.g. North and South Pole explorations, astronauts, cosmonauts, people who explore deep in the oceans). Make a list of qualities or characteristics which students think best describe these 20th century explorers (e.g., adventurous, smart, risk taker, willing or eager to learn new things, greedy, imperialistic, foolish, etc.).

B. Begin a classroom chart listing *explorers* down one side, *characteristics* across the top. Fill in for 20th century explorers.

C. Ask students to present their research reports from Lesson 1 and then to identify qualities or characteristics which would best describe the early explorers. Place information on the classroom chart. Add new categories as needed.

D. Read aloud: "On Exploration," adapted from Stefoff (page 62).
Discussion: What generalizations might we make about all explorers? In what ways do the modern explorers differ from the early explorers? What would be exciting, and what would be problematic about being an explorer at any time in history? Taking into account the characteristics of the 15th -17th century explorers, what do students predict they will learn about the consequences of the explorations for indigenous people in North America? For people in Europe? Imagining ahead into the 21st century, what do students predict might be some important consequences of the 20th century explorations?

E. Students add 20th century explorers to the timeline.

Materials Needed

- Individual student reports on explorers from Lesson 1
- Paper or space for a classroom chart
- List of explorers from ***Into the Unknown*** (National Geographic Society, 1987) (included)
- Copy of "On Exploration" (included)

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Explorers by the Ages

This list presents a selection of significant explorers, with their life dates, listed alphabetically for each of four major eras of exploration.

In the entries, you will find the regions in which they explored, their nationalities, what they did, and the years during which they did it. Explorer teams like Lewis and Clark are listed together.

Early Quests (3000 B.C.-A.D. 1000)

Alexander the Great (356-323 B.C.)
Asia: Greek; pushed into Egypt, Syria, Persia, and eastward to Indus River (334-323 B.C.).

Saint Brendan (ca A.D. 484-578)
Atlantic: Irish; sailed to Hebrides, Wales, and Brittany (A.D. 565-573). Legends say he reached North America.

Chang Ch'ien (?-114 B.C.)
Asia: Chinese; explored China's hinterlands and opened trade along Silk Road, primary means of East-West exchange for centuries.

Erik the Red (10th century A.D.)
Atlantic: Norwegian; explored Greenland (A.D. 982-85); established colony there (A.D. 986).

Leif Eriksson (ca A.D. 970-1020)
Atlantic: Norse; sailed from Greenland to Labrador, Newfoundland or Nova Scotia, and perhaps farther south (ca A.D. 1000).

Eudoxus (2nd century B.C.)
Asia: Greek; explored Arabian Sea and made two voyages to India; disappeared while attempting to circumnavigate Africa.

Hanno (5th century B.C.)
Africa: Carthaginian; explored from Carthage, colonizing down west African coast to Gambia, Sierra Leone, maybe Cameroon (ca 450 B.C.).

Pytheas (4th century B.C.)
Atlantic: Greek; sailed to Britain, Orkney Islands, and perhaps Iceland or Norway (325 B.C.).

Scylax (6th century B.C.)
Asia: Greek; followed Indus River to Indian Ocean, and home via Red Sea (ca 510 B.C.).

The World Discovered (1000-1600)

Diego de Almagro (1475-1538)
South America: Spanish; joined Pizarro in conquest of Peru (1532-35); explored Andes Mountains of northern Chile (1535-37).

Vasco Núñez de Balboa (1475-1519)
Central America: Spanish; explored Panama; first European to see Pacific Ocean (1513).

Álvar Núñez Cabeza de Vaca (ca 1490-1560)
Americas: Spanish; wandered Southwest in North America (1528-1536); explored southern Brazil and discovered Iguazú Falls (1541-44).

John Cabot (ca 1450-1499)
Canada: Italian sailing for British; searched for North American route to Asia, landed on Canada's east coast, claimed it for Britain (1497).

Pedro Álvares Cabral (1467-1520)
South America: Portuguese; en route to India, sailed down west coast of Africa, swung southwestward and discovered Brazil (1500-1501).

Jacques Cartier (1491-1557)
Canada: French; penetrated Gulf of St. Lawrence in search of Northwest Passage (1534-35).

Cheng Ho (15th century)
Asia, Africa: Chinese; sailed to Japan, India, and eastern Africa (1405-1433).

Christopher Columbus (1451-1506)
Americas: Italian sailing for Spanish; possibly landed at Samana Cay, Bahamas (1492-93); also discovered Dominica, Trinidad, and other Caribbean islands before return to Spain (1493-1500), then discovered Martinique, Honduras, and explored Panama's Caribbean coast (1502-04).

Francisco Vásquez de Coronado (ca 1510-1554)
Americas: Spanish; explored the Southwest; his patrol discovered Grand Canyon (1540-42).

Hernán Cortés (1485-1547)
Central America: Spanish; conquered Mexico (1518-1521); laid siege to Tenochtitlán (1521); explored southeast to Honduras (1524-26).

Vasco da Gama (1460-1524)
Asia, Africa: Portuguese; made first recorded voyage from Europe to India (1497-99).

John Davis (ca 1550-1605)
Arctic, Americas: English; searched for Northwest Passage on three voyages; sailed into Baffin Bay from Davis Strait (1585-87).

Hernando de Soto (ca 1496-1542)
North America: Spanish; explored Southeast; discovered Mississippi River (1539-1542).

Bartholomeu Dias (ca 1450-1500)
Asia: Portuguese; first European to make confirmed passage around Africa's Cape of Good Hope, opening sea route to India (1487-88).

Martin Frobisher (ca 1535-1594)
Arctic: English; searched for Northwest Passage and discovered Frobisher Bay (1576); returned there to search for gold (1577-78).

Ibn Battutah (ca 1304-1368)
Africa, Asia: Moroccan; ranged over 75,000 miles, as far as China and Sumatra, to visit and write about Muslim world (1325-1353).

Ferdinand Magellan (ca 1480-1521)
Pacific: Portuguese sailing for Spanish; led first expedition to sail around globe (1519-1521).

Francisco de Orellana (ca 1490-1546)
South America: Spanish; first European to explore Amazon River (1541-42).

Francisco Pizarro (ca 1475-1541)
South America: Spanish; with Balboa at discovery of Pacific (1513); conquered Incas (1532-35).

John of Plano Carpini (ca 1180-1252)
Asia: Italian; first European known to visit Mongol capital of Karakorum (1245-47).

Marco Polo (1254-1324)
Asia: Italian; with father and uncle, Niccolò and **Maffeo Polo**, opened overland route to China from Europe (1271-1295).

Juan Ponce de León (1460-1521)
North America: Spanish; discovered and explored Florida (1513).

Giovanni da Verrazano (ca 1485-1528)
North America: Italian; explored Atlantic coast from Cape Fear, probably to Cape Breton; discovered New York Bay and Narragansett Bay (1524).

Saint Francis Xavier (1506-1552)
Asia: Spanish; missionary who traveled to India and Japan to spread Christianity (1540-1552).

Yermak Timofeyevich (?-1585)
Asia: Russian; Cossack who crossed Urals, battled Tatars, and paved way for Russian conquest of Siberia (1581-85).

The World Explored (1600-1900)

Karell Johan Andersson (1827-1867)
Africa: Swedish; explored southwestern Africa and discovered Okavango River (1851-59).

Samuel W. Baker (1821-1893)
Africa: English; explored Nile tributaries in Ethiopia (1861-62); discovered Lake Albert (1864).

Heinrich Barth (1821-1865)
Africa: German; traveled through Sahara and West Africa, gathering detailed information about interior (1850-55).

Vitus Jonassen Bering (1681-1741)
North America: Danish; sailed through Bering Strait (1728); explored Alaskan coast and discovered Aleutian Islands (1741).

Louis-Antoine de Bougainville (1729-1811)
Pacific: French; circumnavigated globe; explored Tahiti, Samoa, New Hebrides, and other islands (1766-69).

James Bruce (1730-1794)
Africa: Scottish; explored Ethiopia; located source of Blue Nile (1768-1773).

Robert O'Hara Burke (1820-1861)
Australia: Irish-born, settled in Australia; with assistant **William John Wills**, led first expedition across continent, south to north (1860-61).

Richard Francis Burton (1821-1890)
Africa: British; with John Speke, explored Somali and Lake Tanganyika regions (1854).

René-Auguste Caillié (1799-1838)
Africa: French; disguised as Arab, he was first European to reach Timbuktu and return (1827-28).

Samuel de Champlain (ca 1567-1635)
North America: French; founded Quebec Colony (1608); discovered Lake Champlain (1609), Ottawa River (1613), and Great Lakes (1615).

Hugh Clapperton (1788-1827)
Africa: Scottish; with **Dixon Denham** and **Walter Oudney**, crossed Sahara from north; Denham explored Lake Chad region (1823); Oudney died; Clapperton reached Hausa region of Nigeria (1824), returned to Africa (1825-27) where he found and crossed Niger.

James Cook (1728-1779)
Pacific: English; explored most of world's largest ocean; disproved myth of a great Southern Continent; charted New Zealand, Bering Strait, and Canada's west coast; discovered Hawaiian Islands (1768-1779).

Charles R. Darwin (1809-1882)
South America, Australasia: English; naturalist on *Beagle*'s worldwide voyage (1831-36), which provided basis for his theory of evolution.

from ***Into the Unknown, the Story of Exploration*** National Geographic Society, 1987

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Benito de Goes (1562-1607)
Asia: Portuguese; Jesuit who went overland to China via Pamirs; confirmed that China and Cathay were same place (1602-07).

Charles Montagu Doughty (1843-1926)
Arabia: English; traveled undisguised through west and central Arabia and wrote about geography and culture (1876-78).

J.S.C. Dumont d'Urville (1790-1842)
Antarctic: French; first to Adélie Land (1840).

John Franklin (1786-1847)
Arctic: English; headed three Arctic expeditions (1818-1827). Perished with his men in Canada while seeking Northwest Passage.

Simon Fraser (1776-1862)
Canada: Canadian; explored westward from Rockies, through British Columbia to Pacific at Vancouver (1805-08).

John Charles Frémont (1813-1890)
North America: American; mapped Oregon Trail (1842); crossed Rockies to California (1845).

Henry Hudson (ca 1550-1611)
Arctic, North America: English; searched for Northwest Passage; discovered Hudson River and sailed upstream to Albany (1609); found Hudson Bay and died there after mutiny (1610-11).

Alexander von Humboldt (1769-1859)
Americas: German; naturalist who explored South America, Cuba, and Mexico; collected extensive scientific data (1799-1804).

Mary H. Kingsley (1862-1900)
Africa: English; explored Gabon, Congo, and Cameroon to study Fang and other tribes (1895).

Alexander Gordon Laing (1793-1826)
Africa: Scottish; first European to reach Timbuktu; killed as he left.

Richard Lemon Lander (1804-1834)
Africa: English; completed Clapperton's mission by finding mouth of Niger River (1830).

René-Robert Cavelier de La Salle (1643-1687)
North America: French; traveled through Mississippi Valley, claimed it for France (1682).

Meriwether Lewis (1774-1809)
North America: American; with **William Clark** led first crossing of continent to Pacific via Missouri and Columbia Rivers (1804-06).

David Livingstone (1813-1873)
Africa: Scottish; missionary and explorer of interior. Discovered Lake Ngami (1849), Zambezi River (1851), Victoria Falls (1855), and Lake Malawi (1859).

Alexander Mackenzie (1764-1820)
Canada: Scottish; charted Mackenzie River (1789); became first European to cross North America to Pacific, via Peace River (1793).

Jacques Marquette (1637-1675)
North America: French; missionary who, with **Louis Jolliet**, explored from Michigan down Mississippi River (1673).

Matthew Fontaine Maury (1806-1873)
Oceans: American; directed history's first major deep-sea survey, in Atlantic (1849).

Fridtjof Nansen (1861-1930)
Arctic: Norwegian; led first expedition across Greenland's ice cap (1888-89). Tried to drift across North Pole by ship, forced by ice to continue on foot, setting new latitude record (1895).

Mungo Park (1771-1806)
Africa: Scottish; probed West African interior (1795-96); explored Niger River to Bussa (1805-06).

Zebulon Montgomery Pike (1779-1813)
North America: American; mapped territory westward from St. Louis to Colorado (1806).

Nikolay Mikhaylovich Przhevalsky (1839-1888)
Asia: Russian; explored much of central Asia, bringing back extensive scientific data, such as route surveys, botanical collections (1870-1888).

Matteo Ricci (1552-1610)
Asia: Italian; Jesuit missionary who settled in China to spread Christianity and encourage exchange of cultural and scientific information between East and West (1578-1610).

James Clark Ross (1800-1862)
Poles: Scottish; with his uncle, **John Ross**, located North Magnetic Pole (1831); commanded Antarctic expedition for geographical discovery (1840-43); searched Baffin Bay area for John Franklin (1848-49).

Jedediah Strong Smith (1799-1831)
North America: American; first to cross Great Basin into California (1826).

John Hanning Speke (1827-1864)
Africa: English; explored eastern Africa with Richard Burton; found primary source of White Nile at Lake Victoria (1857-59).

Henry Morton Stanley (1841-1904)
Africa: Welsh-born, settled in U.S.; commissioned by *New York Herald* to find David Livingstone in Africa (1871); circumnavigated Lake Victoria; discovered Lake Edward; descended Congo (Zaire) River (1874-77).

Abel Janszoon Tasman (1603-1659)
Pacific: Dutch; discovered Tasmania, New Zealand, and Fiji (1642-43); circumnavigated Australia without knowing it (1644).

Alfred R. Wallace (1823-1913)
South America: English; naturalist who made extensive collections in Amazonia with **Henry W. Bates** (1848-1852) and originated a theory of natural selection similar to Charles Darwin's (1858).

Samuel Wallis (1728-1795)
Pacific: English; discovered Tahiti during search for the mythical Southern Continent (1766-68).

Charles Wilkes (1798-1877)
Pacific: American; confirmed existence of Antarctica; charted Melanesian regions of Pacific (1838-1842).

Francis E. Younghusband (1863-1942)
Asia: British; crossed China from Peking to India (1886); probed Pamirs and Karakoram Range; led an army into forbidden city of Lhasa (1903-04).

To Worlds Beyond (1900-present)

Roald Amundsen (1872-1928)
Poles: Norwegian; first to sail through Northwest Passage (1903-06); first at South Pole (1911).

Roy Chapman Andrews (1884-1960)
Asia: American; led teams of specialists on five expeditions to Gobi Desert, where he uncovered dinosaur eggs and fossil evidence of Earth's largest land mammals (1922-1930).

Neil A. Armstrong (1930-)
Space: American; first to walk on Moon (1969), after first lunar landing with **Edwin E. Aldrin, Jr.**, on Apollo 11 mission with **Michael Collins**.

Robert D. Ballard (1942-)
Oceans: American; explored Mid-Atlantic Ridge (1973-74); found deep-sea life at hydrothermal vents in Pacific (1977); found *Titanic* (1985).

C. William Beebe (1877-1962)
Oceans: American; dived to record 3,028 feet in bathysphere (1934).

Frank Borman (1928-)
Space: American; commander of Apollo 8, which first orbited Moon; accompanied by **James A. Lovell, Jr.**, and **William A. Anders** (1968).

Richard E. Byrd (1888-1957)
Poles: American; first to fly over North Pole (1926); first to fly over South Pole (1929); established American base in Antarctica (1929).

Jacques-Yves Cousteau (1910-)
Oceans: French; developed Aqua-Lung with **Emile Gagnan** (1943); began worldwide ocean surveys on research ship *Calypso* (1950).

Alexandra David-Néel (1868-1969)
Asia: French; reached Lhasa by traveling in disguise as a poor Tibetan pilgrim (1923-24).

Ranulph Fiennes (1943-)
World: British; led first Pole-to-Pole circumnavigation of globe (1979-1982).

Yuri Alekseyevich Gagarin (1934-1968)
Space: Russian; first man in space (1961).

John H. Glenn, Jr. (1921-)
Space: American; first American to orbit Earth, in Mercury capsule *Friendship 7* (1962).

Sven Anders Hedin (1865-1952)
Asia: Swedish; explored and mapped central Asian highlands (1905-08).

Wally Herbert (1934-)
Arctic: British; first to cross surface of Arctic Ocean via North Pole, by dogsled (1968-69).

Robert E. Peary (1856-1920)
Arctic: American; might have reached North Pole on fourth attempt (1909).

Auguste Piccard (1884-1962)
Oceans, skies: Swiss; designed balloon and made first manned ascent into stratosphere in it (1931); dived to record 10,392 feet in bathyscaph built with son **Jacques** (1953). Jacques dived to ocean's deepest point, Mariana Trench, 35,800 feet (1960).

Ralph Plaisted (1927-)
Arctic: American; first confirmed arrival at North Pole (1968).

Joseph F. Rock (1884-1962)
Asia: American; explored central China and unmapped borderlands of China's southwest (1922-1949).

Robert Falcon Scott (1868-1912)
Poles: English; reached South Pole one month after Amundsen (1912) and died on return trip.

Ernest H. Shackleton (1874-1922)
Antarctic: British; went farther south than anyone before him—111 miles from South Pole (1908-09).

Alan B. Shepard, Jr. (1923-)
Space: American; first American in space (1961).

Vilhjalmur Stefansson (1879-1962)
Arctic: Canadian; explored Alaskan and Canadian Arctic (1913-18).

Claudio Villas Boas (ca 1916-)
South America: Brazilian; explored southern Amazon basin with brothers **Orlando** and **Leonardo**; all studied Amazonian Indians and worked to preserve Indian cultures (1961).

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On Exploration

No one has ever satisfactorily explained the urge to explore, the drive to go to the "back of beyond." It is certain that it has been present in humans almost since they began walking erect and first ventured across the African savannas. Sparks from that same fire fueled the transoceanic explorers of the Ice Age, who led their people across the vast plain that formed a land bridge between Asia and North America, and the astronauts and scientists who determined that man must reach the moon.

Besides an element of adventure, all exploration involves an element of mystery. We must not confuse exploration with discovery. Exploration is a purposeful human activity—a search for something. Discovery may be the end result of that search; it may also be an accident, as when Columbus found a "new" continent while searching for the Indies. Often, the explorer may not even realize the full significance of what he has discovered, as was the case with Columbus. Exploration, on the other hand, is the product of a cultural or individual curiosity; it is a unique process that has enabled people to know and understand the world's oceans, continents, and polar regions. It is at the heart of scientific thinking. One of its most significant aspects is that it teaches people to ask the right questions; by doing so, it forces us to reevaluate what we think we know and understand. Thus knowledge progresses and we are driven constantly to a new awareness and appreciation of the universe in all its infinite variety.

The motivation for exploration is not always pure. Fascinated with the new, people often forget that others have been there before. For example, the popular notion of the discovery of America overlooks the complex Indian civilizations that had existed here for thousands of years before the arrival of Europeans. Man's desire for conquest, riches, and fame is often linked inextricably with his quest for the unknown, but a story that touches so closely on the human essence must of necessity treat war as well as peace, avarice and generosity, both pride and humility, frailty and greatness. The story of exploration is above all a story of humanity and of efforts to understand the place of human beings in the universe.

Adapted from ***Marco Polo and the Medieval Explorers***
by Rebecca Stefoff

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PLANISPHERIC ASTROLABE

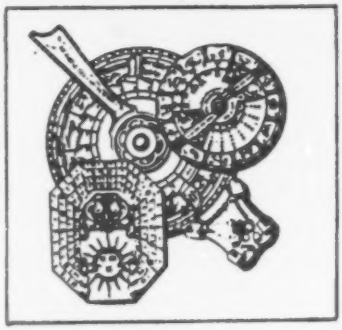
The Astrolabe is one of the earliest and, at the same time, one of the most sophisticated of all ancient scientific instruments. It served as sextant, star-finder, and time-piece for early astronomers, astrologers, and navigators.

Although designed in the manner of the beautiful Renaissance instruments, this is an original Astrolabe, computed for modern star positions, useful through the year 2046. The Astrolabe comes in kit form. The traditional parts of mother, rete, rule, alidade and tympans are printed on gold metallic-surfaced cardboard, precision die-cut for true accuracy. The parts assemble easily into a working Astrolabe 8¾" in diameter. An excellent 21 page booklet concerning its history and construction is included.

Through the high quality materials, and ease of assembly, one not only creates a working instrument, but is afforded a wonderful opportunity to study and relate to historical navigational methods.

Planispheric Astrolabe #1701 **$18**

TRILOGY OF TIME



The skills and esthetics of the past were combined with modern technology to produce this kit of three working instruments. Rendered with all the care of early craftsmen, and executed in precision die-cut metalic-surfaced cardboard, they effectively mirror the heritage of earlier ages. They are:

NOCTURNAL: A 16th century instrument for converting star-time to sun-time at sea.

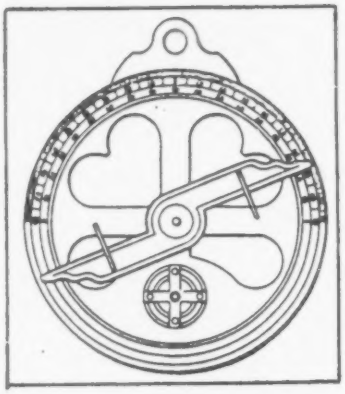
SUNDIAL: To tell time from the lengthening shadows cast by the sun.

PERPETUAL CALENDAR: A functional instrument which is accurate until the year 2016.

Each kit is easy to assemble, functional, and simple to use. Accompanying folders briefly touch on a few highlights of their development.

Trilogy of Time #1702 **$18**

MARINER'S ASTROLABE



This astrolabe was developed by the Portugese in the 15th Century, much later than the "planispheric" astrolabe. It was designed to be used for both sun and star observations, and as a practical working model is the simplest of all to use.

The construction of this astrolabe kit is precision die-cut in metallic surfaced cardboard. It is easy to assemble and comes with an illustrated brochure outlining its history at sea.

Mariner's Astrolabe #1703 **$18**

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Encounters

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Encounters - Seven Lessons

Organizing Idea

1992, the year of the Columbus Quincentenary, provided an awakening for many people living in North America. At long last, the one-sided presentation of European contact with the Americas, the norm in U.S. schools, began to be revised and expanded to include Native perspectives. North America was not an empty continent waiting to be discovered and settled—it was the home of tens of millions of people. The cultural diversity of the pre-Columbian Americas was undoubtedly greater than that of Europe during the same time period. While it is difficult for people who are not Native American to regret, now that their ancestors settled in North America, it is important to understand that this settlement was uninvited and came at a high price; much of this price was paid by native peoples and their communities. Further, it is important to recognize the contributions which Native Americans have made to the country we know as *America,* and to the world.

Organizing Questions

What do we know about North America before the arrival of Europeans?

Who were the first "Americans"?

Where and how did they live?

What happened when Native Americans and Europeans met?

General Objectives for Students

1. Students discover the histories and cultures of native peoples who lived in North America before the arrival of the European explorers.
2. Through primary source reading and inquiry, students understand Native American perspectives.
3. Students understand how Native Americans and explorers met, and consider the results, both good and bad.
4. Students become more aware of, and more interested in, contemporary Native American cultures.

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Lesson One

Student Objective

Talking together, students identify what they already know about Native American history and culture. They will understand that knowledge is cumulative, and that there is much more to learn.

Activities

A. Working alone, students write a list of things they know about Native Americans, past and present. They should note, if possible, where each piece of information came from (e.g., books, television, movies, friends).

B. In pairs, students compare lists and make one list together. They may add additional information as they talk together.

C. Students share their ideas with the whole class; teacher records on chart paper to use in Lesson 7.

Materials Needed

- Chart paper
- Recording supplies for students

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Lesson Two

Student Objective

Using research, inference and imagination, students begin to develop cultural and geographic literacy about North America before 1492.

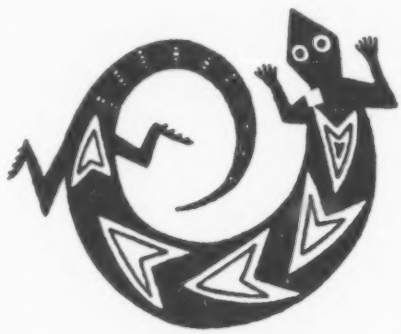
Activities

A. Assemble a classroom set of books and magazines describing Native American life before 1492. Using these, students become "experts" on Native American cultures in <u>one</u> geographic area of North America. Using the research worksheets provided, students work alone or in interest groups to complete their research.

B. Teachers and/or students create a large outline map of the North American continent (instructions included). As students complete their research packets, teams or individual students place information from their small maps onto the larger one.

Materials Needed

- A packet for each student (included) with an outline map, a map showing culture groups, and worksheets with questions and activities
- Multiple sources of information describing Native American life before, or at the time of, European contact (See bibliography and consult a librarian)
- Instructions for creating a wall-size map (included)
- Large paper taped to the wall
- Overhead projector
- Acetate usable in a photocopy machine



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Teacher Instructions - *Making Large Maps Using the Overhead Projector*

Materials Required:

- Overhead projector transparency acetate, 8 1/2" x 11", which can be fed through a copy machine. (One type is Apollo Audiovisual Transparency Film for Overhead Projection: PP100C - Clear.)
- An outline map you wish to enlarge, approximately 8 1/2" x 11"
- Felt tip pen or marker
- Tracing paper and paper clips
- Ordinary copy machine
- Large piece of butcher paper or drawing paper

Procedure:

A. Making a map for use on an overhead projector.

1. Select a map to fit on 8 1/2" x 11" paper.

2. Trace onto a piece of tracing paper only those features of the map that you want your students to have. (An outline map, a map showing geographic areas, a map indicating language groupings, etc.)

3. Place this tracing paper face down on the copy machine with a sheet of plain white paper over it, and run a sheet of transparency acetate through the machine as if it were paper. Your traced image will appear on the acetate!

B. Projecting the map onto the wall so that students have a bigger map to work with.

1. Tape a large piece of butcher paper or drawing paper as smoothly as possible onto a wall (wrinkles result in inaccuracies right from the beginning).

2. Tape the transparency to the projector, then focus projector on the wall, adjusting until the map is the right size for the paper. Next, using masking tape or chalk, mark the exact spot on the floor where the overhead projector is located. Try not to move this arrangement at all once the students begin to trace the image onto the paper, because it is VERY hard to accurately reposition the image on the wall.

3. Let students take turns carefully tracing your map outline onto the big paper with wide magic markers.

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Stories Maps Tell

Student Worksheet

1. Using the outline map in your packet, color the area you have chosen to work on.

2. Using the chart which identifies many Native American tribes, name the peoples who lived in *your* geographic area. If you wish, you could choose symbols for some of the tribes and place them on your outline map.

3. Within *your* area, the climate may vary widely depending on terrain, altitude and season. Create a general description of weather in *your* geographic area.

Temperature	**Rainfall**
_____	_____
_____	_____
_____	_____

4. What are the natural features of the area you are studying? Is the land rocky, mountainous, hilly, flat, fertile, sandy, swampy? Where are the rivers, lakes, or oceans? What kinds of plants grow there? What animals are there? Make lists below.

Plants	**Animals**	**Geographical Features**
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

5. Choose symbols for each of the resources in *your* area and add them to your map.

6. Make a map key so that others can understand your map.

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Stories Maps Tell *(continued)*

Student Worksheet

7. No one living in the fifteenth century had factories or large stores to provide the things they needed to live. Native peoples in America used plants and animals plus land and water resources (you identified them in Question #4) to provide all of their:
   - clothing
   - food
   - shelter
   - medicine
   - tools and weapons
   - items for trade

   Using your knowledge and imagination, describe which of these resources would have been used to create or provide each of these items? (For example, what was clothing made from? weapons? medicine? What was offered for trade and what might have been needed in return?)

   What kind of work would be necessary to produce these items?

   Local resources also provided materials and ideas for art, music, stories, dances, and celebrations. What kinds of decoration were used on items produced in *your* geographic area?

   Describe and give examples of Native American celebrations, festivals, songs, and dances still found today in *your* geographic area?

   Use extra paper if you need more space to answer these questions. Illustrate your report, bring in photographs, share video and audio tapes if you have them.

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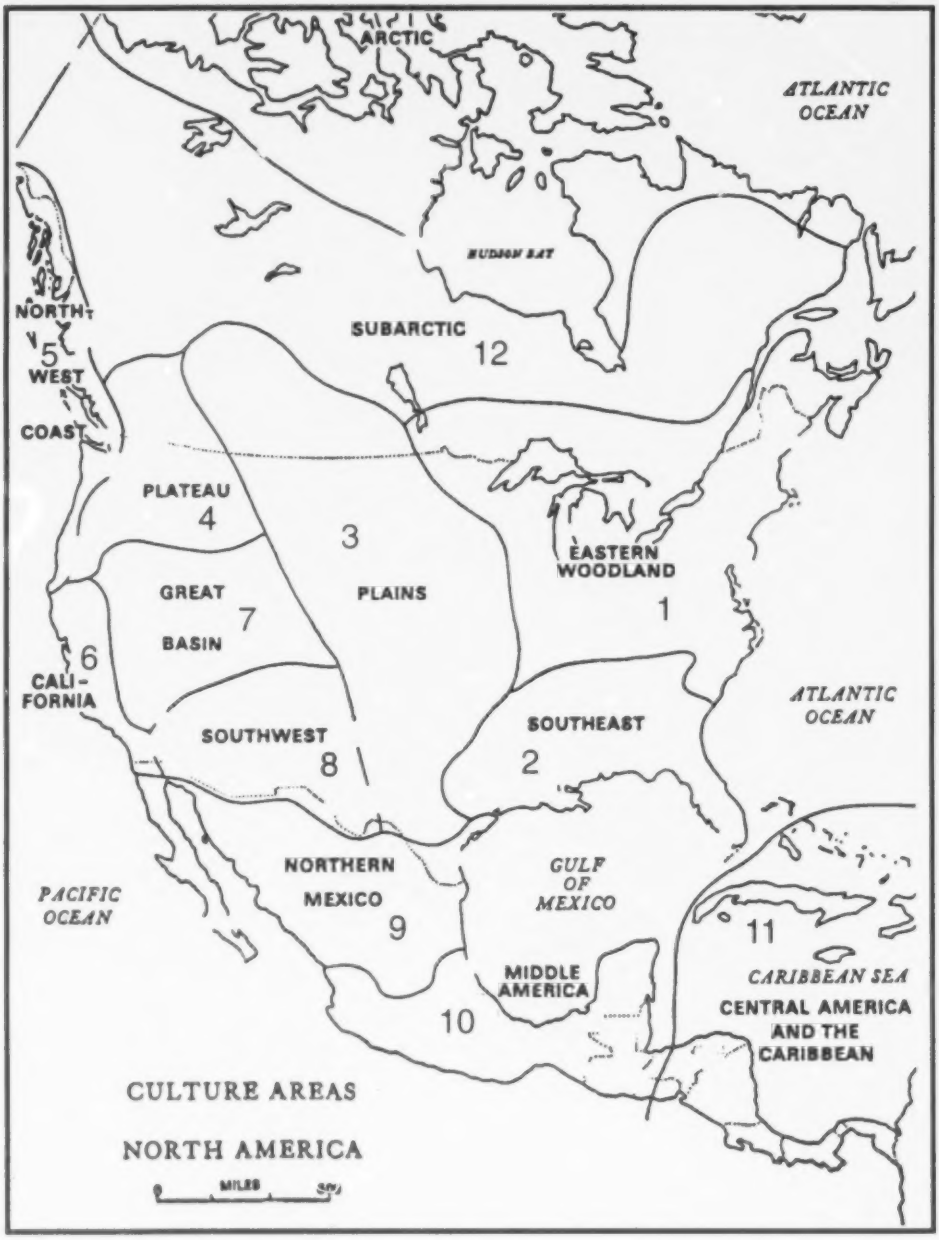

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Culture Areas and Tribal Locations in North America

1 Eastern Woodland
Micmac
Malecite
Passamaquoddy
Abnaki
Penobscot
Pennacook
Massachuset
Wampanoag
Niantic
Nauset
Narraganset
Nipmuc
Pequot
Mohegan
Wappinger
Manican
Mohawk
Onieda
Onondaga
Huron
Cayuga
Seneca
Susquehanna(Conestoga)
Pamunkey
Delaware(Lenni Lenape)
Manticoke
Powhatan
Chickanominy
Mattapony
Tutelo
Pamlico
Mottaway
Tuscarora
Catawba
Shawnee
Plankashaw
Wea
Miami
Peoria
Illinois
Kaskaskia
Kickapoo
Sauk Fox
Winnebago
Potawatomi
Tiomontati
Ottawa
Menominee
Ojibwa(Chippewa)

2 Southeast
Cherokee
Yuchi
Tuskegee
Creek
Yamasee
Guale
Timucua
Apalachee
Alabama
ChoctawChickasaw
Quapaw
Tunica
Natchez
Mouma
Atakapa
Tonkawa
Waco
Kickai
Seminole
Calusa
Mobile
Biloxi
Chitimacha

3 Plains
Comanche
Wichita
Tawakoni
Kiowa Apache
Kiowa
Southern Cheyenne
Osage
Kansa
Oto
Omaha
Missouri
Arapano
Omana
Pawnee
Northern Cheyenne
Teton Dakota
Yankton Dakota
Santee Dakota
Ponca
Iowa
Mandan
Midatsa
Crow
Piegan
Assiniboine
Atsina
Plains Cree
Kaigani(Blood)
Siksika(Blackfoot)
Sarsi

4 Plateau
Chilcotim
Shusswap
Thompson
Okanagan
Kutemai
Kalispel
Sampoil
Colville
Spokan
Coeur
D'Alene
Palouse
Wallawalla
Flathead
Umatilla
Cayuse
Nez Perce
Cowlitz
Yakima
KlikitatMolala
Kalapuya

5 Northwest Coast
Tlingit
Haida
Tsimshian
Bella Coola
Bella Bella
Kwakiutl
Nootka
Salish
Putallup
Nisqually
Umpqua
Takelma
Karok
Yurok
Coos
Tillamook
Chinook
Chenalis
Quileute
Makam

6 California
Shasta
Yana
Majou
Yuki
Wintun
Miwok
Yokuts
Nupa
Mattole
Pomo
Costandan
Salinan
Chumash
Serrano
Cahuilla

7 Great Basin
Bannock
Klamath
Modoc
Achomawi
Shoshoni(Snake)
Atsugewi
Paviotso
Cosiute
Northern Paiute
Southern Paiute
Washo
Ute
Kawailsu
Mono
Pamamint

8 Southwest
Navaho
Jicarilla
Apache
Pueblo
Mescalero Apache
Western Apache
Lipan Apache
Hopi
Zuni
Havasupai
Walapai
Mohave
Yavapai
PimaYuma
Cocopa
Maricopa
Papago
Jumano

9 Northern Mexico
Opata
Concho
Toboso
Karankawa
Tarahumara
Canita
Mayo
Tepehuan
Coahuiltec
Tamaulipec
Tepecano
Huichol
Cora
Acaxee
Yaqui
Cochimi
Pericu
Waicuri

10 Middle America
Totomac
Otomi
Tarascan
Pame
Aztec
Mixtec
Tlamanec
Tlaxcalan
Mixe-zoque
Zapotec
Huastec
Chontal
Yucatan Maya
Lacandon Maya
Quiche Maya

11 Central America and the Caribbean
Jicaque
Mosquito
Lenca
Nicarag
Ciboney
Tiano
Awawak

12 Subarctic
Eskimo
Cree
Naskape Montagnais
Chipewyan
Slave
Yellowknife
Beaver
Kaska Tahltan
Sekani
Tuchone
Nan
Kutchin
Bedthuk

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Lesson Three

Student Objective
Students learn that many languages were spoken in pre-Columbian North America.

Activities
A. Read together the introduction to "The First American Languages" (***Faces***, January, 1992). Assign the puzzle for homework and ask students to create another using "Borrowed Names" (***Cobblestone***, February, 1984).

B. Optional: Share with students the information in Chapter 9, ***America in 1492***. Add *language families* to the wall sized map of North America.

Materials Needed
- ***Faces*** (January, 1992) and ***Cobblestone*** (February, 1984)
- Teacher reading (strongly recommended), Chapter 9, "A Richness of Voices," from ***America in 1492 - The World of the Indian Peoples Before the Arrival of Columbus***.

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Lesson Four

Student Objective

Students are introduced to a selection of Native American literature, and they express their ideas about this literature in a non-textual medium.

Activities

A. Students read the selections of poetry and two stories.

B. Alone or in teams, students choose the poem or story they wish to represent either by:

1. drawing and painting an illustration, or
2. creating an improvisation to act out the poem or story.

C. As students complete their work, provide time for them to share with the class.

Materials Needed

- A class set of readings (included)
- Art supplies and props for improvisation

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Voices of Native Americans

Student Worksheet

First Man Was The First to Emerge

You say there were no people
Smoke was spreading
You say there were no people
Smoke was spreading.

First Man was the very first to emerge, they say,
Smoke was spreading
He brought with him the various robes and precious things, they say,
Smoke was spreading
He brought with him the white corn and the yellow corn, they say,
Smoke was spreading
He brought with him the various animals and the growing things,
they say,
Smoke was spreading.

You say there were no people
Smoke was spreading.

Navajo

Text from ***Navajo Creation Myth***: "The Story of the Emergence by Hasteen Kla," recorded by Mary C. Wheelwright, song translations by Harry Hoija. Copyright 1942, Museum of Navaho Ceremonial Art, Santa Fe, NM.

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Voices of Native Americans *(continued)*

Student Worksheet

They Stooped Over And Came Out

Our great fathers talked together. Here they arose and moved
on. They stooped over and came out from the fourth world,
carrying their precious things clasped to their breasts.

They stooped over and came out from moss world, carrying
their precious things clasped to their breasts.
They stooped over and came out from mud world, carrying their
precious things clasped to their breasts.
They stooped over and came out from wing world, carrying
their precious things clasped to their breasts.
They stooped over and came out and saw their Sun Father and
inhaled the sacred breath of the light of day.

Zuni

Translated from the Zuni by M.C. Stevenson in "The Zuni Indians" Bureau of American Ethnology 23rd Annual Report, 1901-02.

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The Lands Around My Dwelling

The lands around my dwelling
Are more beautiful
From the day
When it is given me to see
Faces I have never seen before.
All is more beautiful,
All is more beautiful,
And life is thankfulness.
These guests of mine
Make my house grand.

Eskimo

Translated by Knud Rasmussen in ***Intellectual Culture of the Iglulik Eskimos,*** into English by W.E. Calvert,1930.

Voices of Native Americans *(continued)*

Student Worksheet

Prayer

Greeting, Father's Clansman, I have just made a robe for you, this is it. Give me a good way of living. May I and my people safely reach the next year. May my children increase; when my sons go to war, may they bring horses. When my son goes to war, may he return with black face. When I move, may the wind come to my face, may the buffalo gather toward me. This summer may the plants thrive, may the cherries be plentiful. May the winter be good, may illness not reach me. May I see the new grass of summer, may I see the full-sized leaves when they come. May I see the spring. May I with all my people safely reach it.

Crow

Translated by Robert Lowie in ***The Crow Indian***, 1935

Prayer

We return thanks to our mother, the earth, which sustains us. We return thanks to the rivers and streams, which supply us with water. We return thanks to all herbs, which furnish medicines for the cure of our diseases. We return thanks to the corn, and to her sisters, the beans and squashes, which give us life. We return thanks to the bushes and trees, which provide us with fruit. We return thanks to the wind, which, moving the air, has banished diseases. We return thanks to the moon and stars, which have given to us their light when the sun was gone. We return thanks to our grandfather *He-no*, that he has protected his grandchildren from witches and reptiles, and has given to us his rain. We return thanks to the sun, that he has looked upon the earth with a beneficent eye. Lastly, we return thanks to the Great Spirit, in whom is embodied all goodness, and who directs all things for the good of the children.

Iroquois

Translated by Ely S. Parker in Lewis Morgan's ***Leagues of the Ho-de-no-sau-nee***, 1851

All of the above selections may be found in ***In the Trail of the Wind***, John Bierhorst, Ed.

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Voices of Native Americans *(continued)*

Student Worksheet

Why Coyote Howls at the Sky

The world was young and it was night time.

Black, black was the night. It swallowed everything up in its darkness. You could see nothing; if you wanted to travel, it was impossible to find the way.

There were many creatures who longed for the night to be a friend to them. If only the black Sky would shine with light, then they could hunt and eat, travel and play; ah, then they would truly be happy.

So they called upon He-Who-Made-the-World to help.

He-Who-Made-the-World heard and was with them. He walked along a river and found a stone. The stone sparkled and shone like the bright flames of a fire. He-Who-Made-the-World threw it up, up, up.

The stone lodged in the Sky: it shone with brilliant light!

He-Who-Made-the-World said: 'This is the first star. It will stay in this place for ever. If you are travelling and lose your way, look for it: use it to find your path home.

'But this work is not yet finished. There must be more stars, many, many to lighten the night. They will move round and round this home-star for ever. And you, the animals, shall make them.

'Go to the river. Find stones like I found. Gather them in your paws and claws, in your beaks and mouths. Throw them carefully into the Sky, so that they form pictures of yourselves.'

So the animals and birds did as the creator had told them. Soon, high above them, many star pictures hung: the constellations.

But some creatures are small and weak. They could not gather enough stones, they could not throw them as far as the Sky.

So He-Who-Made-the-World called upon Coyote:

'Hey trickster! Here is a whole sack full of the shining stones. Take them. Use them to help the small ones, the weak ones to make their portraits.'

Coyote peered into the huge, heavy sack and growled with anger. It would take him many, many nights to toss up all these stones into neat little pictures. He would never have the patience.

So he opened the sack wide. With a single, careless throw, he hurled its entire contents into the sky.

Then the darkness was lit by a mad, swirling star-storm.

Up and down, round through the night the stars swarmed and circled. But at last, like all things, they grew quiet and still and fixed themselves into patterns.

Into patterns, but not pictures.

That is why, even today, many of the constellations seem vague to us, unfinished.

Now Coyote gazed up at the stars and laughed aloud at the turmoil he had made.

But his laughter quickly turned to fury. For he had been so eager to get rid of all the star stones that he had forgotten to make a picture of himself!

Since that distant time, whenever night falls Coyote howls at the Sky. Ah, imagine his anguish: amongst a thousand brilliant constellations he, the great trickster, will never shine!

Hopi

from ***Earth Magic, Sky Magic*** by Rosalind Kerven

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Voices of Native Americans *(continued)*

Student Worksheet

In The Beginning

Tell me: what was it like right in the beginning, when the world was new?

It was dark, my child, and our people were lost: deep, deep under the ground.

How did they get out? How did they come to live here, under the yellow sun and the blue sky?

Mole led them.

Mole?

Yes. He dug the way up, up and out. The People followed him up through the long tunnel until they emerged right out of the darkness. They stood there on the beautiful bright Earth, but the light dazzled them and hurt their eyes. They were so afraid that they wanted to run back into the darkness and hide!

What stopped them?

A voice.

Whose voice? What did it say?

It was sweet and fluting, the voice of an old, old woman. It said, 'Wait! I will help you.' And then, 'Cover your eyes, once, twice, three times, four times; then look and you will be able to see me.' They did as she told them. And indeed, there she was: Spider Woman!

Was it really her? What did she look like?

Oh . . . my child, she was . . . small and dark, wrinkled. She was sweet and warm, like her voice.

'I am your grandmother,' she said. 'I was old before the Sun was born. I am the grandmother of the Earth, and of all living things.'

From within the lost shadows of her ancient body, she began to spin an endless thread of silk.

'This is my wisdom,' she said. 'Do not quarrel, do not fight, do not make wars. Take care of all things that grow and the Earth that feeds them. Do you want to be happy, my grandchilren? Then you must not hurt anyone, or anything, ever, in any way.'

What happened then?

She sent the People away to find their home. They wandered East, North, West and South until at last they came here, to the Middle Land. They built marvellous towns and villages of mud and rock. They grew fine crops of corn. They lived well.

And were they happy?

Ah child, look around you: is everyone happy?

I don't . . . No, not everyone. Often many people seem to look sad.

And why is that, do you think?

Is it because . . . well, they have not really remembered the things that Spider Woman taught them?

Exactly, exactly! People fight and quarrel; they hurt each other. And because of this, they know sorrow. Spider Woman watches us all and weeps so bitterly for our foolishness that her tears light the stars.

If only she could come back again! If only she was there to show us the way!

Ah, but she does, my child. She is often there to help. Listen, listen to the stories . . .

Tewa

from ***Earth Magic, Sky Magic*** by Rosalind Kerven

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Lesson Five

Student Objective

Students are introduced to original source materials and have an opportunity to study a variety of perspectives on early encounters between Europeans and native peoples.

Activities

A. Give out sets of materials. Ask students to study them, then discuss the points of view expressed in these materials. How are these points of view related to the *perspective* or background of the author or artist? What do you think of these points of view?

B. Introduce the idea of creating a poem for two voices to show how perspectives can differ. Share with students the examples provided. Ask students to compose their own poems.

C. Make a classroom book or bulletin board of the poems.

Materials Needed

- A set of the readings for each student (included)
- A copy of the ***Poems for Two Voices*** for teacher presentation (included)
- For further resources, see ***Keys to the Encounter, A Library of Congress Resource Guide for the Study of the Age of Discovery***.

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Many Points of View

Student Worksheet

Excerpts from ***The Log of Christopher Columbus*** translated by Robert H. Fuson:

The Discovery of the Bahamas: *Friday, 12 October 1492*

. . . No sooner had we concluded the formalities of taking possession of the island than people began to come to the beach, all as naked as their mothers bore them. . . They are very well-built people, with handsome bodies and very fine faces, though their appearance is marred somewhat by very broad heads and foreheads, more so than I have ever seen in any other race. Their eyes are large and very pretty, and their skin is the color of Canary Islanders or of sunburned peasants, not at all black, as would be expected because we are on an east-west line with Hierro in the Canaries. These are tall people and their legs, with no exceptions, are quite straight, and none of them has a paunch. They are, in fact, well proportioned. Their hair is not kinky, but straight, and coarse like horsehair. They wear it short over the eyebrows, but they have a long hank in the back that they never cut. Many of the natives paint their faces; others paint their whole bodies; some, only the eyes or nose. Some are painted black, some white, some red; others are of different colors.

The people here called this island *Guanahani* in their language, and their speech is very fluent, although I do not understand any of it. They are friendly and well-dispositioned people who bare no arms except for small spears, and they have no iron. I showed one my sword, and through ignorance he grabbed it by the blade and cut himself. Their spears are made of wood, to which they attach a fish tooth at one end, or some other sharp thing.

I want the natives to develop a friendly attitude toward us because I know that they are a people who can be made free and converted to our Holy Faith more by love than by force. I therefore gave red caps to some and glass beads to others. . . And they took great pleasure in this and became so friendly that it was a marvel.

This afternoon the people of San Salvador came swimming to our ships and in boats made from one log. They brought us parrots, balls of cotton thread, spears, and many other things, including a kind of dry leaf that they hold in great esteem. For these items we swapped them little glass beads and hawks' bells . . .

They ought to make good and skilled servants, for they repeat very quickly whatever we say to them. I think they can easily be made Christians, for they seem to have no religion. If it pleases Our Lord, I will take six of them to Your Highnesses when I depart, in order that they many learn our language.

Monday, 15 October 1492

It is not my wish to bypass any island without taking possession, although having taken one you can claim them all.

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Many Points of View *(continued)*

Student Worksheet

The Discovery of Cuba: *Monday, 29 October 1492*
These houses are more beautiful than any I have seen . . .They are constructed like pavilions, very large, and look like royal tents in a campsite without streets . . . Inside they are very well swept and clean, and the furnishings are arranged in good order. All are built of very beautiful palm branches.

Tuesday, 27 November 1492
. . . And I say that Your Highnesses must not allow any foreigner to set foot here or trade, except Catholic Christians, since it was the beginning and the end of this enterprise that it should be for the increase and the glory of the Christian religion. No one should come to these regions who is not a good Christian.

The Discovery of Española *Sunday, 16 December 1492*
. . . One by one, and in small groups, they came to the ship without bringing anything with them.
. . . and above all because I have great hope in Our Lord that Your Highnesses will convert all of them to Christianity and they will all belong to you, for I regard them as yours now.

Tuesday, 25 December 1492 - Christmas Day
. . . They are an affectionate people, free from avarice and agreeable to everything. I certify to Your Highnesses that in all the world I do not believe there is a better people or a better country. They love their neighbors as themselves, and they have the softest and gentlest voices in the world and are always smiling.

A sketch of northwest Hispaniola drawn by Columbus
from ***They Came Before Columbus*** by Ivan Van Sertima. Copied with permission.

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Many Points of View *(continued)*

Student Worksheet

Bartolome de las Casas

After hearing stories from his uncle who had sailed with Christopher Columbus on the famous voyage in 1492, Bartolome de las Casas and his father Pedro sailed for the West Indies in February 1502. Bartolome became a wealthy landowner. Several years later he fulfilled a lifetime interest and decided to become a priest. He was the first priest to be ordained in the 'New World.' At first, Bartolome supported the Spanish settlers, even though they killed or worked Indians to death in order to support their own life style. But the more contact he had with the Indians, the more he heard and was moved by their complaints of hunger and murder.

Bartolome worked for the rest of his life to bring to public attention the brutality to which Indians were subjected. His book ***The History of the Indies*** chronicled the Spanish discovery and conquest of the New World from 1492 to 1520 and gave the names, dates and accounts of how Indians were mistreated.

This is what he wrote in his book, ***The History of the Indies***:

"The admiral [Christopher Columbus] . . . was as blind as those who came after him, and was so anxious to please the king that he committed irreparable crimes against the Indians."

"[The Spaniards] grew more conceited every day and fell into greater arrogance, presumption and contempt toward these humble people [the Indians] . . . Having neither mules nor horses, they rode the backs of Indians if they were in a hurry; if they had more leisure, they traveled as if by litter, stretched on a hammock carried at a good speed and with relays. In this case they also had Indians carry large leaves to shade them from the sun and others to fan them . . . Wherever they reached an Indian village, they consumed what to fifty Indians would represent abundance, and forced the chief to bring them whatever he had, to the accompaniment of dances."

"Having failed in their attempts to defend themselves, these gentle and patient people fled to the hills but, since experience had taught them the impossibility of escaping from Spaniards anywhere, they suffered and died in the mines and other labors in desperate silence, knowing not a soul in the world to whom they could turn for help. And this is at the root of the doubt as to whether they were animals or human beings."

"There were other improprieties, such as saying the Indians needed tutors like children because they could not govern themselves and because, if left to their own resources, they did not work but died of starvation, and all this was said in order to keep power over them."

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Many Points of View *(continued)*

Student Worksheet

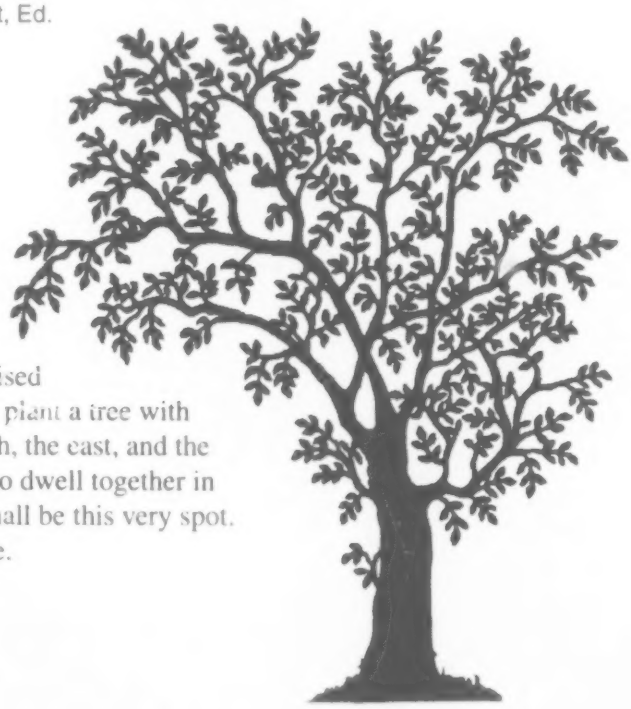
Bartolome de las Casas (continued)

There were "Spanish brutes" in the mines and on plantations who "treated the Indians with such rigor and inhumanity that they seemed the very ministers of Hell, driving them day and night with beatings, kicks, lashes and blows and calling them no sweeter name than dogs. The Spaniards then created a special police to hunt them back because mistreatment and intolerable labor led to nothing but death, and the Indians, seeing their companions die, began escaping into the woods."

"When the Indians saw Spanish men building houses and villages to settle on their land without asking permission, as if it belonged to them, and knowing how inopportune the Spanish were with their demands, as well as how they had forced other Indians to sail with them, they took the news of the settling very badly . . . Everybody knows that no nation in the world, however uncivilized, would tolerate such a thing; indeed all of them would resent it very much and resist mightily. The Spanish found discontent among the Indians and determined to add fuel to the fire and reward their hospitality by taking prisoner the cacique, [chief] his wife and children."

From: ***In the Trail of the Wind***, John Bierhorst, Ed.

An Iroquois Prophecy



Many winters ago, our wise ancestors predicted that a great monster, with white eyes, would come from the east and, as he advanced, would consume the land. This monster is the white race, and the prediction is near its fulfillment. They advised their children, when they became [illegible], to plant a tree with four roots, branching to the north, the south, the east, and the west; and then collecting under its shade, to dwell together in unity and harmony. This tree, I propose, shall be this very spot. Here we will gather, here live, and here die.

Iroquois

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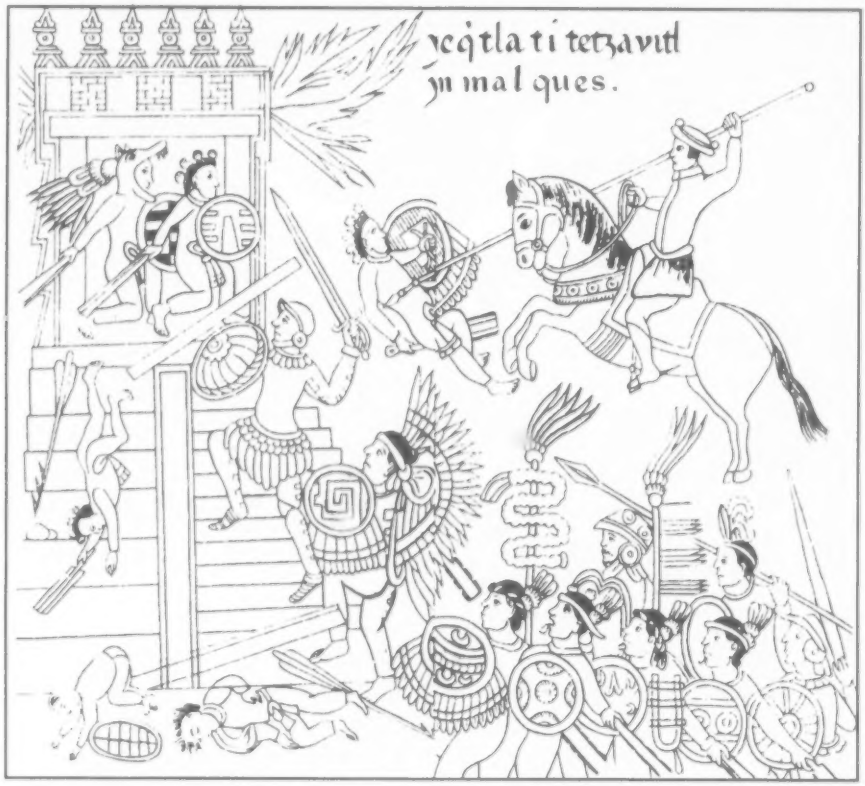
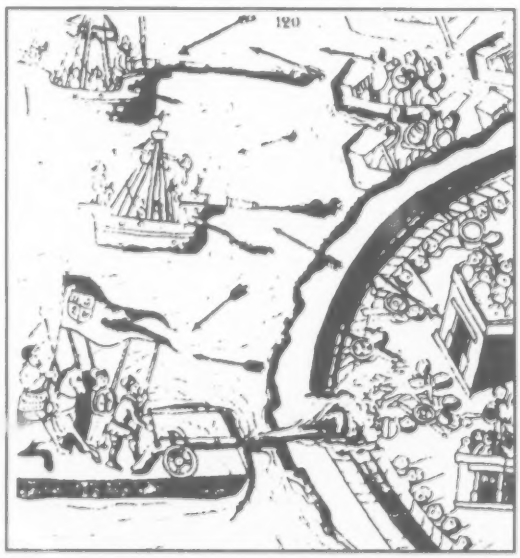
Many Points of View *(continued)*

Student Worksheet

These 16th Century drawings illustrate the Indians' version of the Spanish conquest of Mexico.





All drawings are courtesy of the American Museum of Natural History and are found in Cobblestone/March 1981.

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Expressing Multiple Perspectives

Honeybees
by Paul Fleischman

Being a bee

is a pain.

I'm a worker
I'll gladly explain.

I'm up at dawn, guarding
the hive's narrow entrance

then I take out
the hive's morning trash

then I put in an hour
making wax,
without two minutes' time
to sit still and relax.

Then I might collect nectar
from the field
three miles north

or perhaps I'm on
larva detail

feeding the grubs
in their cells,
wishing that *I* were still
helpless and pale.

Then I pack combs with
pollen—not my idea of fun.

Being a bee
is a joy.

I'm a queen

I'll gladly explain.
Upon rising, I'm fed
by my royal attendants,

I'm bathed

then I'm groomed.

The rest of my day
is quite simply set forth:

I lay eggs,

by the hundred.

I'm loved and I'm lauded,
I'm outranked by none.

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Expressing Multiple Perspectives (Continued)

Honeybees (continued)

When I've done
enough laying

Then, weary, I strive

I retire

to patch up any cracks
in the hive.

for the rest of the day.

Then I build some new cells,
slaving away at
enlarging this Hell,
dreading the sight
of another sunrise,
wondering why we don't
all unionize.
Truly, a bee's is the
worst
of all lives.

Truly, a bee's is the
best
of all lives.

from ***Joyful Noise: Poems for Two Voices***

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Expressing Multiple Perspectives (Continued)

Meeting

by Adam Martin, student
Day Middle School, Newtonville, MA

Columbus

We had sailed forever on a mission from God to find the land of gold.

We finally got there, the land, the joyful land that we had been searching for.

They were naked as when they were born. Their skin was the color of freshly baked clay. Their hair was black as ebony and shiny like the sea. They called us gods.

One day . . .

New people came to us.

They were ugly.

A Taino

We lived on our island for centuries in peace, leading our lives, undisturbed.

We saw a canoe from the East like no canoe we had ever seen before, a ship with great, white wings.

They wore oddly colored cottons all over their skin and fur on their faces. Their skin was pale like sand. Their hair varied from the golden yellow of corn to black as a moonless night.
They called us Indians.
They gave us gold.

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Expressing Multiple Perspectives (Continued)

Meeting (continued)

We welcomed them and gave them gifts.

They treated us like gods.

We traded.

We gave them horses, cows, and pigs.

We gave them corn, sweet potato, tomato, and vanilla.

They were friendly, but their ways were strange.

They asked us for the shiny yellow metal they call gold.

They gave us gold.

They asked for more, but we had none.

This was

good.

bad.

They were savage and without a god . . .

They lied, they stole, they cheated. They brutally and uncaringly hurt us, scarring our souls permanently. They forced us to obey their every will.

Something had to be done.

They were like children. They had no knowledge of the world.

They needed a book to guide them.

We only obeyed God's will in converting the heathens and pagans.

They made us worship the religion of the cross.

They didn't understand.

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Expressing Multiple Perspectives *(Continued)*

Meeting (continued)

They broke up our families.
They stole our few belongings
to please their tyrant leader.

We came with the purpose
of bringing back gold and
conquests to the Queen.

It happened. It can't be
changed.

We gave them Christ.

They gave us trouble.

We helped them live.
They gave us death.

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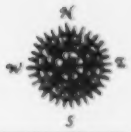

Lesson Six

Student Objective
Students integrate their knowledge using a dramatic exercise.

Activities
A. Students imagine that they have been transported back in time to 1491. They are not only time travelers but adventurers as well and have traveled throughout pre-Columbian North America. Transporting to Europe, they find wealthy society ablaze with rumors of far off continents, great wealth, and sea monsters. A Prince becomes fascinated with the time travelers' stories, and will pay well to hear a detailed account. He asks the group to make a presentation at his next feast.

B. Students divide into small groups and review all of the research completed during the past few months. The class must decide how to divide the presentation so that each group has an equal amount of work to do. In preparing the presentations, students may use art materials, overheads, and presentations of drama or poetry if they wish. Recommendations and suggestions for future explorers to the New World should be included.

C. Students make their presentations to the Prince at a gathering of his influential friends. Consider having adult volunteers or another class portray the Prince and his friends.

Materials Needed
- Work completed for this curriculum
- Art materials, an overhead projector, theatrical props, etc.

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Lesson Seven

Student Objective

Students *reflect* on what they have learned during this unit and *imagine* a different ending to the story of the Exploration.

Activities

A. Look at the original list of "what we know about native peoples." What shall we add? Is there anything which should not be on this list?

B. Ask students to use the ideas and information from the last few months to write an essay addressing these questions: What might America be like if Europeans had not established permanent settlements here? Where and how would *you* be living? How would encounters between explorers and Native Americans have been different if the explorers had come only to learn, share and appreciate?

Materials Needed

- List from Lesson One of this unit

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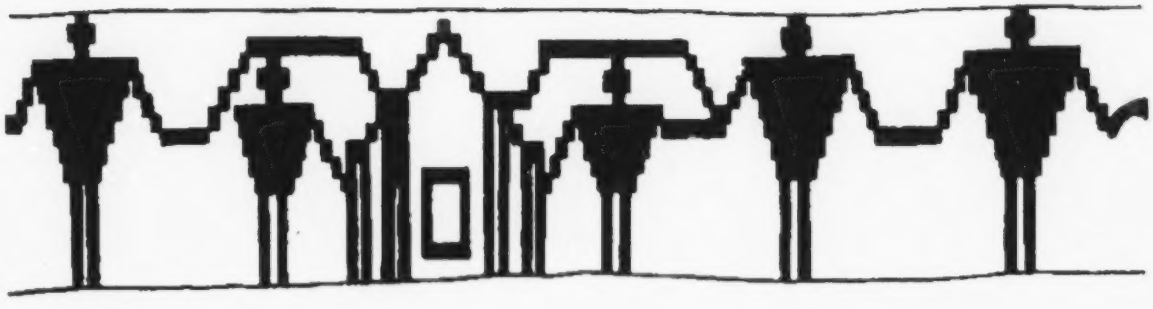

Bibliography

Context

Student Books

Atkinson, Ian. ***The Viking Ships***. Cambridge: Cambridge University Press, 1979.

Describes the history of the Vikings as long-distance travelers and explorers and details the discovery of ancient Viking ships and other evidence of Viking travel. Includes descriptions and illustrations of Viking ship-building technology, and a description of life aboard a ship.

Berthon, Simon & Robinson, Andrew. ***The Shape of the World***. NY: Rand McNally, 1991.

The history of mapmaking and scientific invention drawn from many ages and countries - from Pythagoras and Ptolemy to Galileo, Newton and the scientists of NASA. Text is for an adult audience but the many varied illustrations make this useful for students as well.

Brenner, Barbara. ***If You Were There in 1492***. Bradbury Press, 1991.

Gives an overview of events in Spain in 1492, including the expulsion of the Jews.

Bulla, Clyde R. ***Viking Adventures***. NY: Thomas Y. Crowell Co., 1963.

Fictional account of a Norwegian boy signed on as a seaman for a Viking expedition to the New World. Simple text, pencil text illustrations.

Caselli, Giovanni. ***The Everyday Life of a German Printer***. NY: Peter Bedrick Books, 1987.

This story set in 1485 Nuremberg, describes a young boy's apprenticeship in his father's print shop. Includes pictures of crafts and products.

Caselli, Giovanni. ***Life Through the Ages***. NY: Grosset & Dunlap, 1987.

Discusses major peoples and historical developments of the European subcontinent from 2,000,000 BCE through the present day. Covers Ancient Egypt, Greek and Roman Empires, the Vikings, the Crusades, the Plagues, the Renaissance, Explorers, the "New World," and lifestyles of the European 1600s.

Caselli, Giovanni. ***The Renaissance and the New World***. NY: Peter Bedrick Books, 1985.

Details everyday life in Renaissance Europe. Describes people and lifestyles in this society; includes finely-detailed illustrations with captions.

Custode, Michael. ***Ancient Ships on American Shores***. Toronto: Three Trees Press, 1986.

Presents information and evidence suggesting that explorers and sea travelers landed in America long before Columbus. Describes theories supporting the arrival of ships of the Phoenicians, Africans, Chinese and Vikings.

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Context (continued)

Student Books (cont.)

Finkelstein, Norman. ***The Other 1492***. NY: Charles Scribner's Sons, 1989.

Background for the Inquisition. The contributions of Jews to the cultural and financial life of Spain and the expulsion of Jews from Spain. For good and/or motivated readers.

Fisher, Leonard Everett. ***Prince Henry the Navigator***. NY: Macmillan, 1990.

A beautifully illustrated picture book about Prince Henry of Portugal whose desire to find out more about the world led him to establish the first school of navigation; three important navigational tools were improved and a sleek, swift ship was developed.

Fritz, Jean. ***Brendan the Navigator***. NY: Coward-McCann, 1979.

Simple text with pen and ink illustrations. Tells the traditional story of Irish monk who, early in the 6th century, embarks on a long voyage in a leather boat - possibly all the way to North America. Includes discussion of a 1976 duplicate voyage made in order to determine the feasibility of such a journey.

Fritz, Jean et al. ***The World in 1492***. NY: Henry Holt and Co., 1992.

Six authors write about Europe, Asia, Africa, Australia and Oceania, and the Americas. Illustrated with maps, drawings of period artifacts and works of art, this book introduces children to vast, sophisticated civilizations, their histories, customs and beliefs. For advanced readers.

Gail, Marzieh. ***Life in the Renaissance***. NY: Random House, 1969.

Advanced reading level. Discusses in detail the daily life, work, entertainment, fashion, technological, scientific, and medical advancements, trade, travel, religion, and art of Renaissance times. Includes 100 illustrations from Renaissance sources.

Goodenough, Simon. ***The Renaissance***. (*The Living Past* series.) NY: Arco Publishing, 1981.

Covers technological and astronomical advances. Discusses the effects of disease, violence, and the discrepancy between the lifestyles of the wealthy and the poor.

Howarth, Sarah. ***Renaissance People***. Brookfield, CT: The Millbrook Press, 1992.

Each of the 13 chapters centers on one imaginary person and describes how each lived, worked and fit into the general social structure. People introduced include: an artist, banker, prince, architect, protestant, witch and beggar. Generous use of quotations and case studies as well as a variety of illustrations. Glossary included.

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Context (continued)

Student Books (cont.)

Howarth, Sarah. ***Renaissance Places***. Brookfield, CT: The Millbrook Press, 1992.

Two to three page chapters discuss topics such as the city, the printer's workshop, the theater, the parliament and the observatory. Many varied illustrations accompany the text. Glossary included.

Irwin, Constance. ***Strange Footprints on the Land***. NY: HarperCollins, 1980.

The author presents the many clues, some recently uncovered, to the five-hundred-year period of Norse exploration and settlement in North America. She shows how historians, archaeologists, runeologists, even cryptologists interpret these discoveries, argue and reinterpret until history emerges. For advanced readers.

Krusky, Stephen. ***Who Really Discovered America?*** NY: Scholastic, Inc., 1987.

Introduces the American continents as lands already populated by many people of Asian ancestry. Describes the creation of separate continents and the slow migration of America's first people across the Bering Straits. Presents evidence for exploration of the Americas by the Japanese, the Chinese, the Phoenicians, and the Vikings.

Lasky, Kathryn. ***The Librarian Who Measured the Earth***. Boston: Little, Brown & Co., 1994.

Tells the story of Eratosthenes, a Greek student who lived over 2,000 years ago. Bold and colorful illustrations and simple text present a wonderful story and challenging math concepts. A Children's Book Council/International Reading Association "Children's Book Choice" for 1995.

Millard, Anne. ***Warriors and Seafarers: The Great Empires of Egypt, Assyria and Babylon and the World in Old Testament Times - 1500 B.C.E. to 500 B.C.E.*** Usborne, 1979.

From the Children's Picture World History Series. Sections, each about two pages in length, feature mosaics of brightly colored drawings depicting objects, activities, and historical events. Key dates and maps included. Suitable for 4th-6th graders.

Odijk, Pamela. ***The Phoenicians***. Englewood Cliffs, NJ: Silver Burdett Press, 1989.

Beautifully illustrated with timeline; brief, well-written descriptions of Phoenician life.

Packard, Edward. ***Viking Raiders***. NY: Bantam Books, 1992.

Part of *Choose Your Own Adventure* series. An adventure story in which the reader becomes a young Viking living on the coast of Norway. A band of vicious Viking raiders is headed towards your village. These bloodthirsty conquerors are certain to seize anything they want— including you. What will you do? By choosing alternate endings, the reader can change story's ending.

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Context (continued)

Student Books (cont.)

Parks, George Bruner. ***Richard Hakluyt and the English Voyages***. F. Ungar Pub. Co., 1961.

This scholarly work about England's first geographer includes several black and white maps, some of which pull out. There are interesting copies of paintings as well as copies from early manuscripts.

Pierre, Michel. ***The Renaissance***. Englewood Cliffs,NJ: Silver Burdett Press, 1987.

A good reference for 5th-8th graders, a brief introduction to the period. Organized as a book of essays, each two-page piece highlights issues or people from this period in Europe. Illustrations support the text.

Place, Robin. ***Adventures of Young Vikings in Jorvick*** (*The Vikings* series). Cambridge: Cambridge University Press, 1985.

As with other Cambridge University Press books for children, this is well written and carefully illustrated. Based on archaeological research, the stories describe Viking families who lived in England.

Roth, Susan. ***Marco Polo: His Notebook***. NY: Doubleday, 1991.

Brief fictional entries based on Polo's own book, *The Travels of Marco Polo.*

Ryan, Peter. ***Explorers and Mapmakers***. NY: E.P. Dutton,(Lodestar Books) 1989.

A large print, accessible book, well-illustrated. Presents ideas on the importance of maps (with an example of Ptolemy), early voyages, spice trade, individual explorers, navigational instruments. Story comes up to the present with Voyager. Good book for student research. also useful for Unit II - Voyages.

Sabin, Francene. ***Renaissance***. Mahwah, NJ: Troll Associates, 1985.

Overview of the societal advances made during Renaissance time. Begins by describing the decline into the Dark Ages after the fall of the Roman Empire. Includes a discussion of humanism and the Reformation. Simple elementary text.

Sherwood, Merriam and Mantz, Emer. ***The Road to Cathay***. NY: The MacMillan, 1928.

Stories of Friar John of Plano Campini, Friar Odoric the Bohemian, William of Rubruquis, Ibn Battuta the Moor and Marco Polo of Venice are told, together with their own descriptions of the marvels of Cathay, the wonders of India, the four rivers of Paradise and the islands of the South, and the tales from the Book of Sir John de Mandeville. Table of contents supplies detailed description of each chapter. Beautiful black/white block print illustrations and maps of each explorer's travels. Language for advanced readers.

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Student Books (cont.)

Stefoff, Rebecca. ***Marco Polo and the Medieval Explorers*** . Chelsea House Publishers (*World Explorers* series). 1992.

A visually beautiful book, written for middle to high school level or good readers of any age. Informative. Other books in the series concern many of the well-known explorers as well as explorations of a more contemporary nature.

Thompson, Gunnar. ***Nu'Sun: Asian American Voyages 500 BC***. Fresno, CA: Pioneer Publishing, 1989.

This is very accessible, although not classified as a juvenile book. Storytelling and factual references are well interspersed. Available from the Boston Public Library.

Tunis, Edward. ***Oars, Sails, & Steam***. World Pub. Co., 1952.

Detailed line drawings of about 70 ships from many areas of the world starting with an Egyptian boat model from 8000 B.C.E. Glossary of nautical terms.

Twist, Clint. ***Marco Polo: Overland to Medieval China***. Austin, TX: Raintree/Steck-Vaughn, 1992.

One of a series of books on explorers, this beautifully illustrated book describes the background of Marco Polo's exploration, focusing on the economic pressures and technological advances that made it possible. Also examined are the societies Polo encountered and the effect his discoveries had on his homeland and on the new regions he visited. Written for advanced readers.

Wood, Tim. ***The Renaissance***. NY: Viking Press, 1993.

Part of the *See-Through-History* series. Reader can peel back see-through pages to look inside a Florentine town house, Columbus' ship, the *Santa Maria*, St. Peter's in Rome and a printer's workshop. Two page, fact-filled sections include the rise of trade, the ships, wealthy patrons, astronomy and warfare. Key dates and glossary included.

Ventura, Piero. ***Venice: Birth of a City***. NY: G.P. Putnam's Sons, 1987.

Format is largely illustrative, using two-page highly-detailed drawings of Venice from its origin to the present day. Accompanying text is brief and simple. History of Venice's society and trade develops within a time-line layout, beginning with 300 B.C.E.

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Context (continued)

Books for Teachers and Older Students

Bailey, Ralph Edgar. ***Argosies of Empire: The Adventures of Great Sea Captains of Trade, 1200 BC to 1500 AD.*** 1947.

Parts 1 & 2 concern the exploits of Rab Ithobal of Tyre, Lord of Phoenicia, including the search for tin, the greatest of all his adventures. Part 3 describes the exploits of Vasco de Gama.

Baker, Daniel B. (Ed.) ***Explorers and Discoverers of the World***. Detroit: Gale Research, 1993.

A compendium of names, dates, and literature. Since currently, literature detailing explorations from areas of the world such as Africa, Asia, and the Middle East is scarce, most of the references in this book are to Europeans who went to those parts of the world. Nevertheless, this may be a useful resource.

Chapman, Paul H. ***The Norse Discovery of America***. Atlanta, GA: One Candle Press, 1981.

Geometric and proof-like, this work's systematic organization makes it more accessible than other books of its genre, although the language is somewhat dense.

Dunn, Ross E. ***The Adventures of Ibn Battuta: Muslim Traveler of the 14th Century***. Berkeley, CA: University of California Press, 1986.

A synoptic introduction to the Muslim world of the Middle Ages. Ibn Battuta left his native Tangier in 1325 on a hajj to Mecca and did not return to Morocco until 1349. By this time he had visited not only Mecca but many countries as well.

Gilbert, Martin. ***Atlas of Jewish History***. Dorset Press, 1985.

This atlas traces the history, worldwide migrations, achievements, lives of the Jewish people from ancient Mesopotamia to the present day. It sheds light on the role of Jews in their different national settings, their complex history, their reaction to persecution.

Hamdun, Said, and King, Noel. ***Ibn Battuta in Black Africa***. Princeton: Markus Wiener Publishers, 1994.

Ibn Battuta penetrated deep into black Africa and provided unique documentation as well as a highly personal report of private lives and morals, religion and scholarship and trade and government in East and West Africa. The editors selected and translated passages from these texts. Contains one map, photographs and illustrations, as well as an index.

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Context (continued)

Books for Teachers and Older Students (cont.)

Levathes, Louise. ***When China Ruled the Seas: The Treasure Fleet of the Dragon Throne 1405-1433***. NY: Simon & Schuster, 1995.

Details China's voyages of exploration half a century before Columbus and his peers; the Chinese voyages involved many ships, some of which were over ten times as large as European ships. The fleet included a crew of 28,000 on some voyages. Excellent reading for putting European explorations in global perspective.

Levenson, Jay (ed.) ***Circa 1492: Art in the Age of Exploration***. Washington, D.C./New Haven, CT: National Gallery of Art/Yale University Press, 1991.

A goldmine of information: text, maps and beautifully reproduced art showing Europe, Asia, and the Americas before and just after 1492.

Needham, Joseph. ***The Shorter Science and Civilization in China***. Ronan, Colin A., project coordinator responsible for this abridgement of Joseph Needham's original text. Cambridge: Cambridge University Press, 1986.

A fascinating, detailed book which opens a new perspective on world history. It is easy to read with quotes and illustrations from original sources. Compares and contrasts China with Europe in the 14th and 15th centuries.

Polo, Marco, ***The Travels of Marco Polo***, Dorset Press, 1987.

A Venetian trader, Marco Polo lived and traveled throughout the East from 1275 to 1292. By his account, he was the first traveler to record crossing the entire continent of Asia. His spectacular accounts are a mine of information about lands and cultures that Europeans had never seen, particularly the vast empire of China and Mongolia.

Rubin, Nancy. ***Isabelle of Castille: The First Renaissance Queen***. St. Martin's, 1991.

A chapter book chronicling Isabella's life; written for advanced readers in an engaging style. Beautifully illustrated.

Van Sertima, Ivan. ***They Came Before Columbus: The African Presence in Ancient America***. Random House, 1976.

A scholarly, intriguing look at evidence for the presence and legacy of Black Africans in ancient America.

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Context *(continued)*

Articles and Other Materials

Calliope, Jan./Feb. 1992. "Great Explorers to the West."

Calliope, Sept./Oct., 1990. "Great Explorers to the East." Excellent map in this issue.

Cobblestone, Oct., 1984. *Who Came to America Before Columbus?*
Investigates theories regarding pre-Columbian explorers. Includes discussion of American Native peoples, the Phoenicians, the Vikings, St. Brendan, and the Chinese. Explains radio-carbon dating, and the archaeological methods helpful in finding and interpreting physical evidence.

OAH Magazine of History. "The Hemispheric Roots of the Columbian Voyages," Spring 1991. Several articles of interest and relevance.

National Geographic, Dec. 1991. Marco Polo.

The Shape of the World (includes three resources)

The book is a beautifully illustrated and comprehensive companion volume to the six-part PBS television series that tells the epic story of the exploration, measurement, and mapping of Planet Earth.

The video is a production of Granada Television of England. This tape contains excerpts from the longer program and are five to fifteen minutes in length. Topics are expanded in the lessons plans.

The lessons: A teacher's manual and student handouts are provided for social studies and science topics. The manuals contain questions which help teachers prepare students for the video and also indicate which handouts correspond to each of the six video parts.

"The World of 1492." Special supplement to ***Scholastic***, Fall 1991.

Contains an outstanding map with brief notes describing the world as it was when Columbus set sail in 1492.

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Voyages

There are many books available on individual explorers. We have included several about Columbus because the Quincentennary produced a rich field of carefully researched material, and because these books include generic information about ships and voyaging.

Student Books

Abranson, Erik. ***Ships and Seafarers***. London: McDonald Education Ltd., 1979.

Describes highlights of seafaring history—international explorers and their influences, trade, and changing world power and colonization. Includes a discussion of the technological development of shipbuilding.

Baker, Betty. ***Walk the World's Rim***. NY: Harper & Row, 1965.

This historical novel, appropriate for 5th grade through high school, tells the story of Chakoh, a young Indian boy living at the end of the 16th century in the desperately poor east Texas hill country. To Chakoh's village come three Spaniards and an African, Esteban, who agree to take Chakoh with them to Mexico. Esteban and Chakoh become close friends; the boy learns valuable lessons from Esteban, the most important of which are those of honor and courage. Chakoh comes to know that slavery rather than the slaves is to be despised.

Brownlee, Walter. ***The First Ships Round the World***. Cambridge: Cambridge University Press, 1974.

Chronicles Renaissance exploration by sea travel. Explains what it would have been like to be on the voyage, how ships were designed, managed, and navigated, the daily routine, the conditions of life and earth, and the skills of the sailors.

Cummins, John, translator. ***The Voyage of Christopher Columbus: Columbus' Own Journal of Discovery***. NY: St. Martin's Press, 1992.

A text of Columbus' log which includes information from several sources: the copy made by Bartolome de las Casas, Columbus' son, Fernando's, biography of his father, records of legal battles over the spoils and Columbus' own library. A thorough introduction includes information on Columbus' life, sailing vessels, crew lists, shipboard life and sailing. Written for adults but valuable for students as well.

Fritz, Jean. ***Where Do You Think You're Going, Christopher Columbus?*** NY: G.P. Putnam's Sons, 1980.

An 80 page spirited account of Christopher Columbus' voyages to the "New World." Intriguing details plus several charming illustrations and maps help hold readers' attention. Three pages of notes provide additional information.

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Student Books (cont.)

Marx, Robert. ***Following Columbus: The Voyage of the Nina II***. Cleveland, OH: World Pub. Co., 1964.

Simple text with some difficult vocabulary. Narrates the story of the re-enactment of Columbus' journey, on a replica of a caravel, by a nine-man crew. Based on a log kept by the Nina II's navigator. Includes many photographs and a large map.

Mathews, Rupert. ***Explorer*** NY: Alfred A. Knopf,(*Eyewitness Books*) 1991.

Most striking about this book are the excellent, color photos of real artifacts: maps, navigational instruments, ship models, indigenous art, paintings, sailors' possessions. Each two page spread addresses a different topic related to exploration.

Meltzer, Milton. ***Columbus and the World Around Him***. NY: Franklin Watts, 1990.

As an historian, Meltzer has taken care to tell this story in context with a discussion of motivations and results. Many illustrations; for skilled readers.

O'Dell, Scott. ***The King's Fifth***. NY: Houghton Mifflin, 1966.

This novel is told in first person through the eyes of an adolescent boy. Through the introduction of Esteban the Moor, we understand that some Africans were involved in the "age of exploration." A major theme is the exploitation of Native Americans in the southwest.

Pelta, Kathy. ***Discovering Christopher Columbus: How History Is Invented***. Lerner Publishers, 1991.

Excellent resource on understanding how history and historical myth are created. Use throughout the curriculum.

Roop, Peter & Connie. ***I, Columbus: My Journal***. NY: Avon Books, 1990.

This excerpted version of Columbus' log is a good resource for a variety of reading levels. Includes colorful illustrations.

Ryan, Peter. ***Explorers and Mapmakers***. NY: E.P. (Dutton Lodestar Books), 1989.

A large print, accessible book, well-illustrated. Presents ideas on the importance of maps (with an example of Ptolemy), early voyages, spice trade, individual explorers, navigational instruments. Story comes up to the present with the *Voyager* spacecraft. Good book for student research. also useful for Unit I - Context.

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Student Books (cont.)

Spizzirri, Linda, ed. ***An Educational Coloring Book of Ships***. Medinah, Ill: Spizzirri Publishing Co., 1981.

Pen and ink drawings for coloring, and brief factual information. A good reference as crews work on their packets.

Unstead, R.J. ***A Galleon***. London: Grisewood & Dempsey Ltd., 1986.

Describes what it would be like to be a crew member on a galleon. Details daily life and routine, the ins and outs of the ship, sea battle, and navigation.

Yue, Charlotte and David. ***Christopher Columbus: How He Did It***. NY: Houghton, 1992.

Meticulous drawings at a blueprint level present practical aspects of Columbus' voyage. Good source material for crew preparation and ship construction research.

Teachers and Older Students

Fuson, Robert, translator. ***The Log of Christopher Columbus***. Camden, ME: International Marine Publishing Co., 1987.

Christopher Columbus' own account of his 1492 voyage with supplementary information on suggested landfalls, medieval ships, navigation and Columbus' own mysterious personal history. Footnotes offered for each journal entry provide much interesting information.

National Geographic Society. ***Into the Unknown: The Story of Exploration***. 1987.

Beautifully illustrated with maps, photos and artwork, this 300 page hardcover book describes a few voyages in detail; brings stories of exploration into the present.

Articles

Smith, Roger C. "Ships of Exploration," in ***Archaeology***. Jan./Feb. 1991.

Details historical detective work which reveals how ships in the "Age of Exploration" were built and outfitted.

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The following list describes only a few of the many wonderful books on Native American history and culture currently available in libraries and bookstores.

Student Books

Bierhorst, John, editor. ***In the Trail of the Wind: American Indian Poems and Ritual Orations***. NY: Farrar, Straus and Giroux, 1971.

Omens, battle songs, orations, love lyrics, prayers, dreams and mysterious incantations translated from over 40 languages representing all the best-known Indian cultures of North and South America. Beginning with the origin of the earth and the emergence of man, the sequence proceeds through the rituals of birth, love, war, and death to the foreshadowing of the Conquest, the days of despair and, finally, the apocalyptic visions of a new life. Detailed notes are supplied for each of the 126 selections.

Bonfanti, Leo. ***Biographies and Legends of the New England Indians***. Wakefield, MA: Pride Publications, Inc., 1970.

A four-volume series of pamphlets which cover topics such as biographical sketches of several 17th century Native American leaders, a review of the causes that led to the start of the King Philip War, and a description of the war between the Colonies and Narragansetts. Advanced reading level. Available at **Primary Source**.

Bruchac, Joseph and Caduto, Michael. ***Keepers of the Earth: Native American Stories***. Fulcrum, 1991.

Features a collection of Native American stories from North America. Includes related hands-on activities designed to inspire children—ages 5 through 12—to feel part of their surroundings. The emphasis is on an interdisciplinary approach to teaching about the earth and Native American cultures.

Gibson, Robert O. ***The Chumash***. Philadelphia: Chelsea House Publishers, 1991.

Description of one group of California Indians. Accessible for middle school students with good reading skills.

Hesse, Zora. ***Southwestern Indian Recipe Book: Apache, Pima, Papago, Pueblo, and Navajo***. Palmer Lake, CO: The Filter Press, 1973.

Good resource for students who choose the Southwest as the geographic area to research, or as an additional hands-on activity for all students. Available at **Primary Source**.

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Student Books (cont.)

Highwater, Jamake. ***The Ceremony of Innocence***. San Francisco: Harper Collins, 1985.

Chronicles the story of one Northern Plains Indian family through three generations. Addresses white treatment of Native Americans. For upper reading levels.

Johnson, Delores. ***Seminole Diary***.

Written in diary form and set in 1834, this book tells the story of slaves who escape from their plantation and are taken in by a Seminole tribe. The tribe is eventually forcibly marched and transported to "Indian Territory" in Oklahoma. This picture book is illustrated with bright, bold illustrations and would be appropriate for 5/6 graders.

Kerven, Rosalind. ***Earth Magic, Sky Magic***. Cambridge: Cambridge University Press, 1991.

A collection of 18 short stories from various North American Indian tribes. Stories are divided into the following sections: People of the Sky, Spider Woman, Old Man Coyote and His Tricks, Strange Journeys, Marvellous Happenings. These stories tell of a time when the Earth was treated with respect and the animals were our equals.

Landau, Elaine. ***The Sioux***. NY: Franklin Watts, 1989.

Four to five page chapters and beautiful varied illustrations introduce the 5/6th grade reader to the Sioux. Chapter topics include "Sioux culture," "And Then the Whites Came," "Little Bighorn," "Hard Times," "Wounded Knee," and "Today."

Paiwonsky, Michael. ***Conquest of Eden, 1493-1515, Other Voyages of Columbus: Guadeloupe, Puerto Rico, Hisaniola, Virgin Islands***. Chacago: Mapes Monde Editore (213 W. Institute Place, Chicago), 1991.

Period reproductions of astounding clarity provide primary source material on which the text is based. Highly thought-provoking. For upper reading levels.

Santa Barbara Museum of Natural History. ***The Chumash People***. San Luis Obispo, CA: EZ Nature Books, 1991.

A curriculum unit with text background materials, student activities, and a bibliography. For west coast region research.

Stopsky, Fred. ***Bartolome de las Casas: Champion of Indian Rights***. Lowell, MA: Discovery Enterprises, Ltd., 1992.

Describes the life and work of a Columbus' contemporary. Can be adapted for various reading levels. Good for reading aloud.

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Student Books (cont.)

Whitehead, Ruth Holmes, and McGee, Harold. ***The Micmac: How Their Ancestors Lived Five Hundred Years Ago***. Halifax, N.S.: Nimbus Publishing Ltd., 1983.

This paperback book of 60 pages contains short, fact-filled entries about topics ranging from "Traditional Micmac Skills" to "Abundant Forest, Rivers of Fish" to "Family and Community." The black and white line drawings are detailed and eye-catching.

Resources for Teachers and Older Students

Ballantine, Betty and Ian (Eds.). ***The Native Americans: An Illustrated History***. Atlanta: Turner Publishing, 1993.

This approximately 500 page book provides the reader with a look at American history through the eyes of its original inhabitants. It focuses especially on the past 500 years when native Americans were forced to cope with the invasion of white Europeans. It is a story of their adaptability to a challenging land and circumstances. This book is illustrated with photographs and maps and the work of both historic and contemporary artists.

(Eds.) Chicago Religious Task Force on Central America. 1991. ***Dangerous Memories: Invasion and Resistance Since 1492***.

A book of selected original source and secondary source writings, powerfully presented to enlarge our historical perspective. Useful illustrations and quotations for use in discussion.

Coalition of Educators Against Racism, Sexism, and Anti-Semitism, prepared in cooperation with the Bill of Rights Education Project. ***Columbus in the Classroom***. 1992.

A looseleaf notebook of original source readings and suggested curriculum activities.

Collard, Andree M. ***Bartolome de las Casas: History of the Indies***. NY: Harper & Row, 1971.

Lengthy and well-documented account by de las Casas of the Spanish discovery and conquest of the New World from 1492 to 1520. It raises questions larger than the historical events: moral issues of war, slavery, human rights, and the mission of secular governments.

Courlander, Harold. ***The Fourth World of the Hopis: The Epic Story of the Hopi Indians as Preserved in their Legends and Traditions***. Albuquerque: University of New Mexico Press, 1971.

This book presents the story of the Hopi Indians as preserved in their legends and traditions. The author has brought together traditional accounts of epic events and adventures in the life of Hopi clans and villages, from legendary to historic time. Notes, glossary, pronunciation guide (as well as some music) included.

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Resources for Teachers and Older Students (cont.)

DeVorsey, Louis. ***Keys to the Encounter***. Washington, D.C.: Library of Congress, 1992.

A narrative covering the "Age of Discovery," its principal personalities and events. Covers the period from (roughly) 1450-1580. Includes maps and first hand accounts.

Dutton, Bertha. ***American Indians of the Southwest***. Albuquerque: University of New Mexico Press, 1983.

Broad-based introduction to southwestern Indian cultures for the non-specialist.

Fagan, Brian. ***Kingdoms of Gold, Kingdoms of Jade: The Americas Before Columbus***. Thames and Hudson, 1991.

The author uses recent archaeological discoveries to reconstruct the rise and fall of the powerful pre-Columbian civilizations.

Fleischman, Paul. ***Joyful Noise: Poems for Two Voices***. NY: Harper & Row, 1988.

Poems recreate the "boisterous/joyful noise" of insects. Useful for demonstrating multiple perspectives.

Josephy, Alvin M., Jr. (Ed.). ***America in 1492: The World of the Indian Peoples Before the Arrival of Columbus***. NY: Alfred Knopf, 1992.

Sixteen leading scholars write about the seventy-five million people who flourished in the Americas before the arrival of European explorers. Though written for adults, many sections are usable with students. Many original source graphics.

Loewen, James, W. ***Lies My Teacher Told Me: Everything Your American History Textbook Got Wrong***. NY: The New Press, 1995.

Beginning with pre-Columbian American history and ranging over characters and events as diverse as Reconstruction, Helen Keller, first Thanksgiving, and the My Lai massacre, Loewen inspires us to look again at the American history we were taught.

Lopez, Barry. ***The Rediscovery of North America***. Frankfort, KY: University Press of Kentucky, 1990.

A small book of poetic essays which begins and ends with Columbus and in between makes a passionate plea to care for the earth.

Maller, Arlington Humphrey. ***The Rediscovery of Lost America***. NY: Dutton, 1979.

Language is dense, but the maps of pre-Columbian America are excellent and would make good resource material.

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Resources for Teachers and Older Students (cont.)

Meredith, Howard. ***Dancing on Common Ground: Tribal Cultures and Alliances on the Southern Plains***. Lawrence, KS: University Press of Kansas, 1995.

Using dance as a metaphor, the author introduces the reader to southern Plains cultures and argues that Indians needs to reclaim their native languages and traditions in order to survive and thrive in the U.S. of today.

Nabokov, Peter. ***Native American Testimony: An Anthology of Indian and White Relations***. Thomas Crowell, 1978.

A history of relations between Native Americans and whites, as seen through Indian eyes. First-hand account plus photos; some pieces could be directly shared with students.

Russell, Howard. ***Indian New England Before the Mayflower***. Hanover, N.H.: University Press of New England (Dartmouth College), 1980.

Broad-based introduction to New England Indian cultures with extensive reference to primary sources. Pictures and text quotes excellent for use in lessons or student research.

Slapin, Beverly and Seale, Doris (Eds.). ***Through Indian Eyes: The Native Experience in Books for Children***. Philadelphia:New Society Publishers, 1990.

Poetry, personal recollection, bibliographies and reviews of books from a Native perspective lead the librarian, teacher and parent to an understanding of the often subtle stereotypes and mythology that abound about Native Americans in children's literature.

Stannard, David. ***American Holocaust***. NY: Oxford University Press, 1992.

Stannard begins with a portrait of the enormous richness and diversity of life in the Americas prior to Columbus' fateful voyage in 1492. He then reveals that wherever Europeans went, the Native people were caught between imported plagues and barbarous atrocities, typically resulting in the annihilation of 95 percent of their populations.

Weatherford, Jack. ***Native Roots: How the Indians Enriched America***. Crown Publishers, 1991.

If you only have time to read one book about America before 1492, this is the one. A well-written, comprehensive look at the complexity and richness of Native cultures in North America. It advances ideas about the ways in which American culture has been influenced by *earlier* (Native) American cultures.

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Articles

"Rethinking Columbus: Teaching about the 500th anniversary of Columbus' arrival in America," a special issue of ***Rethinking Schools*** (1001 E. Keefe Ave., Milwaukee, WI 53212).

A journal with articles and primary source materials on the impact of Columbus' voyages, and on contemporary Indian concerns. Written for teachers, contains resource listings and bibliographies.

"1491: America Before Columbus." Special Issue of ***National Geographic***, October 1991.

This issue takes a look at the people and cultures in North America just before the "discovery" of the New World. Includes illustrations and stories.

Magazines for the classroom

COBBLESTONE: The United States history magazine for young people. Published by ***Cobblestone*** Publishing, Inc., 7 School Street, Peterborough, NH 03458.

CALLIOPE: World history magazine for young people. Same address as ***Cobblestone***.

FACES: An anthology magazine for young people. Same address as ***Cobblestone***.

General Timelines Books

Grun, Bernard. ***The Timelines of History: A Horizontal Linkage of People and Events***. NY: Simon and Schuster, 1982.

An encyclopedic book listing people and events from 4241 B.C.E. through 1978 C.E. The format allows the reader to follow people and events, year by year, in the following categories: History and Politics; Literature and the Theater; Religion; Philosophy and Learning; Visual Arts; Music; Science, Technology and Growth; and Daily Life.

Kullen, Allan S. ***The Peopling of America: A Timeline of Events That Helped Shape Our Nation***. Americans All, 1994.

A timeline, covering the years pre-1500 to the present, documents the confluence of peoples, cultures and ideologies which make up United States history. Information included on Native Americans, African Americans, European Americans, Asian Americans and Hispanic Americans. Providing a general framework for these specific groups, the book includes major events in the history of the United States as well as in the history of Canada, Mexico, the Caribbean and countries of Central and South America.

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